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► **B** **DIRECTIVE 2000/60/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**
of 23 October 2000
establishing a framework for Community action in the field of water policy
(OJ L 327, 22.12.2000, p. 1)

Amended by:

		Official Journal		
		No	page	date
► <u>M1</u>	Decision No 2455/2001/EC of the European Parliament and of the Council of 20 November 2001	L 331	1	15.12.2001
► <u>M2</u>	Directive 2008/32/EC of the European Parliament and of the Council of 11 March 2008	L 81	60	20.3.2008
► <u>M3</u>	Directive 2008/105/EC of the European Parliament and of the Council of 16 December 2008	L 348	84	24.12.2008
► <u>M4</u>	Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009	L 140	114	5.6.2009
► <u>M5</u>	Directive 2013/39/EU of the European Parliament and of the Council of 12 August 2013	L 226	1	24.8.2013
► <u>M6</u>	Council Directive 2013/64/EU of 17 December 2013	L 353	8	28.12.2013
► <u>M7</u>	Commission Directive 2014/101/EU of 30 October 2014	L 311	32	31.10.2014
► <u>M8</u>	Directive (EU) 2026/805 of the European Parliament and of the Council of 30 March 2026	L 805	1	20.4.2026



**DIRECTIVE 2000/60/EC OF THE EUROPEAN PARLIAMENT
AND OF THE COUNCIL**

of 23 October 2000

**establishing a framework for Community action in the field of
water policy**

Article 1

Purpose

The purpose of this Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which:

- (a) prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems;
- (b) promotes sustainable water use based on a long-term protection of available water resources;
- (c) aims at enhanced protection and improvement of the aquatic environment, *inter alia*, through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances;
- (d) ensures the progressive reduction of pollution of groundwater and prevents its further pollution, and
- (e) contributes to mitigating the effects of floods and droughts

and thereby contributes to:

— the provision of the sufficient supply of good quality surface water and groundwater as needed for sustainable, balanced and equitable water use,

— a significant reduction in pollution of groundwater,

— the protection of territorial and marine waters, and

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- achieving the objectives of relevant international agreements, including those which aim to prevent and eliminate pollution of the marine environment, by Union action to cease or phase out discharges, emissions and losses of priority hazardous substances, with the ultimate aim of achieving concentrations in the marine environment near background values for naturally occurring substances and close to zero for man-made synthetic substances.

▼B*Article 2***Definitions**

For the purposes of this Directive the following definitions shall apply:

1. ‘Surface water’ means inland waters, except groundwater; transitional waters and coastal waters, except in respect of chemical status for which it shall also include territorial waters.
2. ‘Groundwater’ means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.
3. ‘Inland water’ means all standing or flowing water on the surface of the land, and all groundwater on the landward side of the baseline from which the breadth of territorial waters is measured.
4. ‘River’ means a body of inland water flowing for the most part on the surface of the land but which may flow underground for part of its course.
5. ‘Lake’ means a body of standing inland surface water.
6. ‘Transitional waters’ are bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows.
7. ‘Coastal water’ means surface water on the landward side of a line, every point of which is at a distance of one nautical mile on the seaward side from the nearest point of the baseline from which the breadth of territorial waters is measured, extending where appropriate up to the outer limit of transitional waters.
8. ‘Artificial water body’ means a body of surface water created by human activity.
9. ‘Heavily modified water body’ means a body of surface water which as a result of physical alterations by human activity is substantially changed in character, as designated by the Member State in accordance with the provisions of Annex II.
10. ‘Body of surface water’ means a discrete and significant element of surface water such as a lake, a reservoir, a stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water.

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11. ‘Aquifer’ means a subsurface layer or layers of rock or other geological strata of sufficient porosity and permeability to allow either a significant flow of groundwater or the abstraction of significant quantities of groundwater.
12. ‘Body of groundwater’ means a distinct volume of groundwater within an aquifer or aquifers.
13. ‘River basin’ means the area of land from which all surface run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta.
14. ‘Sub-basin’ means the area of land from which all surface run-off flows through a series of streams, rivers and, possibly, lakes to a particular point in a water course (normally a lake or a river confluence).
15. ‘River basin district’ means the area of land and sea, made up of one or more neighbouring river basins together with their associated groundwaters and coastal waters, which is identified under Article 3 (1) as the main unit for management of river basins.
16. ‘Competent Authority’ means an authority or authorities identified under Article 3(2) or 3(3).
17. ‘Surface water status’ is the general expression of the status of a body of surface water, determined by the poorer of its ecological status and its chemical status.
18. ‘Good surface water status’ means the status achieved by a surface water body when both its ecological status and its chemical status are at least ‘good’.
19. ‘Groundwater status’ is the general expression of the status of a body of groundwater, determined by the poorer of its quantitative status and its chemical status.
20. ‘Good groundwater status’ means the status achieved by a groundwater body when both its quantitative status and its chemical status are at least ‘good’.
21. ‘Ecological status’ is an expression of the quality of the structure and functioning of aquatic ecosystems associated with surface waters, classified in accordance with Annex V.
22. ‘Good ecological status’ is the status of a body of surface water, so classified in accordance with Annex V.
23. ‘Good ecological potential’ is the status of a heavily modified or an artificial body of water, so classified in accordance with the relevant provisions of Annex V.

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24. ‘Good surface water chemical status’ means the chemical status required to meet the environmental objectives for surface waters set out in Article 4(1)(a) of this Directive, that is the chemical status achieved by a body of surface water in which concentrations of pollutants exceed neither the environmental quality standards for priority substances listed in Part A of Annex I to Directive 2008/105/EC of the European Parliament and of the Council ⁽¹⁾ nor the environmental quality standards for river basin specific pollutants set and applied in accordance with Article 8d of that Directive, and in which effect-based trigger values, where available, are also not exceeded.

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25. ‘Good groundwater chemical status’ is the chemical status of a body of groundwater, which meets all the conditions set out in table 2.3.2 of Annex V.
26. ‘Quantitative status’ is an expression of the degree to which a body of groundwater is affected by direct and indirect abstractions.
27. ‘Available groundwater resource’ means the long-term annual average rate of overall recharge of the body of groundwater less the long-term annual rate of flow required to achieve the ecological quality objectives for associated surface waters specified under Article 4, to avoid any significant diminution in the ecological status of such waters and to avoid any significant damage to associated terrestrial ecosystems.
28. ‘Good quantitative status’ is the status defined in table 2.1.2 of Annex V.
29. ‘Hazardous substances’ means substances or groups of substances that are toxic, persistent and liable to bio-accumulate, and other substances or groups of substances which give rise to an equivalent level of concern.

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30. ‘Priority substances’ means substances listed in Part A of Annex I to Directive 2008/105/EC, that are substances which present a significant risk to or via the aquatic environment and are prioritised in accordance with Article 16(2) of this Directive.
- 30a. ‘Priority hazardous substances’ means priority substances which are identified as “hazardous” in accordance with the legislation referred to in Article 16(3).
- 30b. ‘River basin specific pollutants’ means pollutants that are not or no longer identified as priority substances, but which Member States have identified, on the basis of the assessment of pressures and impacts on surface water bodies carried out in accordance with Annex II, as being discharged or deposited in significant quantities into a river basin or sub-basin and thus posing a significant risk to or via the aquatic environment within their territory.

⁽¹⁾ Directive 2008/105/EC of the European Parliament and of the Council of 16 December 2008 on environmental quality standards in the field of water policy, amending and subsequently repealing Council Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending Directive 2000/60/EC of the European Parliament and of the Council (OJ L 348, 24.12.2008, p. 84, ELI: <http://data.europa.eu/eli/dir/2008/105/oj>).

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31. ‘Pollutant’ means any substance liable to cause pollution, in particular those listed in Annex VIII.
32. ‘Direct discharge to groundwater’ means discharge of pollutants into groundwater without percolation throughout the soil or subsoil.
33. ‘Pollution’ means the direct or indirect introduction, as a result of human activity, of substances or heat into the air, water or land which may be harmful to human health or the quality of aquatic ecosystems or terrestrial ecosystems directly depending on aquatic ecosystems, which result in damage to material property, or which impair or interfere with amenities and other legitimate uses of the environment.
34. ‘Environmental objectives’ means the objectives set out in Article 4.

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35. ‘Environmental quality standard’ means the concentration of a particular pollutant or group of pollutants in water, sediment or biota not to be exceeded in order to protect human health and the environment.
- 35a. ‘Effect-based trigger value’ means a threshold for the effects of a pollutant or group of pollutants in water, sediment or biota, where those effects are measured by an appropriate and scientifically validated effect-based monitoring method, above which adverse effects on human health or the environment from that pollutant or group of pollutants in water, sediment or biota, could occur.

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36. ‘Combined approach’ means the control of discharges and emissions into surface waters according to the approach set out in Article 10.

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37. ‘Water intended for human consumption’ means water intended for human consumption as defined in Article 2, point (1), of Directive (EU) 2020/2184 of the European Parliament and of the Council ⁽¹⁾.

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38. ‘Water services’ means all services which provide, for households, public institutions or any economic activity:
 - (a) abstraction, impoundment, storage, treatment and distribution of surface water or groundwater,
 - (b) waste-water collection and treatment facilities which subsequently discharge into surface water.

⁽¹⁾ Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption (OJ L 435, 23.12.2020, p. 1, ELI: <http://data.europa.eu/eli/dir/2020/2184/oj>).

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39. ‘Water use’ means water services together with any other activity identified under Article 5 and Annex II having a significant impact on the status of water.

This concept applies for the purposes of Article 1 and of the economic analysis carried out according to Article 5 and Annex III, point (b).

40. ‘Emission limit values’ means the mass, expressed in terms of certain specific parameters, concentration and/or level of an emission, which may not be exceeded during any one or more periods of time. Emission limit values may also be laid down for certain groups, families or categories of substances, in particular for those identified under Article 16.

The emission limit values for substances shall normally apply at the point where the emissions leave the installation, dilution being disregarded when determining them. With regard to indirect releases into water, the effect of a waste-water treatment plant may be taken into account when determining the emission limit values of the installations involved, provided that an equivalent level is guaranteed for protection of the environment as a whole and provided that this does not lead to higher levels of pollution in the environment.

41. ‘Emission controls’ are controls requiring a specific emission limitation, for instance an emission limit value, or otherwise specifying limits or conditions on the effects, nature or other characteristics of an emission or operating conditions which affect emissions. Use of the term ‘emission control’ in this Directive in respect of the provisions of any other Directive shall not be held as reinterpreting those provisions in any respect.

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42. ‘Deterioration of the status of a body of water’ means the lowering of the status of at least one of the quality elements, within the meaning of Annex V, by one class, even if that lowering does not result in a fall in the classification of the body of water as a whole; however, if a quality element is already at the lowest class, any further deterioration of that element constitutes a deterioration of the status of the body of water.

▼B*Article 3***Coordination of administrative arrangements within river basin districts**

1. Member States shall identify the individual river basins lying within their national territory and, for the purposes of this Directive, shall assign them to individual river basin districts. Small river basins may be combined with larger river basins or joined with neighbouring small basins to form individual river basin districts where appropriate. Where groundwaters do not fully follow a particular river basin, they shall be identified and assigned to the nearest or most appropriate river basin district. Coastal waters shall be identified and assigned to the nearest or most appropriate river basin district or districts.

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2. Member States shall ensure the appropriate administrative arrangements, including the identification of the appropriate competent authority, for the application of the rules of this Directive within each river basin district lying within their territory.

3. Member States shall ensure that a river basin covering the territory of more than one Member State is assigned to an international river basin district. At the request of the Member States involved, the Commission shall act to facilitate the assigning to such international river basin districts.

Each Member State shall ensure the appropriate administrative arrangements, including the identification of the appropriate competent authority, for the application of the rules of this Directive within the portion of any international river basin district lying within its territory.

4. Member States shall ensure that the requirements of this Directive for the achievement of the environmental objectives established under Article 4, and in particular all programmes of measures are coordinated for the whole of the river basin district. For international river basin districts the Member States concerned shall together ensure this coordination and may, for this purpose, use existing structures stemming from international agreements. At the request of the Member States involved, the Commission shall act to facilitate the establishment of the programmes of measures.

5. Where a river basin district extends beyond the territory of the Community, the Member State or Member States concerned shall endeavour to establish appropriate coordination with the relevant non-Member States, with the aim of achieving the objectives of this Directive throughout the river basin district. Member States shall ensure the application of the rules of this Directive within their territory.

6. Member States may identify an existing national or international body as competent authority for the purposes of this Directive.

7. Member States shall identify the competent authority by the date mentioned in Article 24.

8. Member States shall provide the Commission with a list of their competent authorities and of the competent authorities of all the international bodies in which they participate at the latest six months after the date mentioned in Article 24. For each competent authority the information set out in Annex I shall be provided.

9. Member States shall inform the Commission of any changes to the information provided according to paragraph 8 within three months of the change coming into effect.

*Article 4***Environmental objectives**

1. In making operational the programmes of measures specified in the river basin management plans:

(a) for surface waters

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- (i) Member States shall implement the necessary measures to prevent deterioration of the status of all bodies of surface water, subject to the application of paragraphs 6 to 7b and without prejudice to paragraph 8;

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- (ii) Member States shall protect, enhance and restore all bodies of surface water, subject to the application of point (iii) of this paragraph for artificial and heavily modified bodies of water, with the aim of achieving good surface water status at the latest 15 years after the date of entry into force of this Directive, in accordance with the provisions laid down in Annex V, subject to the application of extensions determined in accordance with paragraph 4 and to the application of paragraphs 5 to 7b without prejudice to paragraph 8;
- (iii) Member States shall protect and enhance all artificial and heavily modified bodies of water, with the aim of achieving good ecological potential and good surface water chemical status at the latest 15 years from the date of entry into force of this Directive, in accordance with the provisions laid down in Annex V, subject to the application of extensions determined in accordance with paragraph 4 and to the application of paragraphs 5 to 7b without prejudice to paragraph 8;

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- (iv) Member States shall implement the necessary measures in accordance with Article 16(1) and (8), with the aim of progressively reducing pollution from priority substances and ceasing or phasing out emissions, discharges and losses of priority hazardous substances.

without prejudice to the relevant international agreements referred to in Article 1 for the parties concerned;

(b) for groundwater

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- (i) Member States shall implement the measures necessary to prevent or limit the input of pollutants into groundwater and to prevent the deterioration of the status of all bodies of groundwater, subject to the application of paragraphs 6 to 7b of this Article and without prejudice to paragraph 8 thereof and subject to the application of Article 11(3)(j);
- (ii) Member States shall protect, enhance and restore all bodies of groundwater and ensure a balance between abstraction and recharge of groundwater, with the aim of achieving good groundwater status at the latest 15 years after the date of entry into force of this Directive, in accordance with the provisions laid down in Annex V, subject to the application of extensions determined in accordance with paragraph 4 of this Article and to the application of paragraphs 5 to 7b thereof without prejudice to paragraph 8 of this Article and subject to the application of Article 11(3)(j);

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- (iii) Member States shall implement the measures necessary to reverse any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity in order progressively to reduce pollution of groundwater.

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Measures to achieve trend reversal shall be implemented in accordance with Article 17(2) of this Directive and Article 5 and Annex IV of Directive 2006/118/EC of the European Parliament and of the Council ⁽¹⁾, subject to the application of paragraphs 6 to 7b of this Article and without prejudice to paragraph 8 thereof.

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(c) for protected areas

Member States shall achieve compliance with any standards and objectives at the latest 15 years after the date of entry into force of this Directive, unless otherwise specified in the Community legislation under which the individual protected areas have been established.

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As regards Mayotte as an outermost region within the meaning of Article 349 of the Treaty on the Functioning of the European Union (hereinafter ‘Mayotte’), the time limit referred to in points (a)(ii), (a)(iii), (b)(ii) and (c) shall be 22 December 2021.

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2. Where more than one of the objectives under paragraph 1 relates to a given body of water, the most stringent shall apply.

3. Member States may designate a body of surface water as artificial or heavily modified, when:

(a) the changes to the hydromorphological characteristics of that body which would be necessary for achieving good ecological status would have significant adverse effects on:

(i) the wider environment;

(ii) navigation, including port facilities, or recreation;

(iii) activities for the purposes of which water is stored, such as drinking-water supply, power generation or irrigation;

(iv) water regulation, flood protection, land drainage, or

(v) other equally important sustainable human development activities;

(b) the beneficial objectives served by the artificial or modified characteristics of the water body cannot, for reasons of technical feasibility or disproportionate costs, reasonably be achieved by other means, which are a significantly better environmental option.

Such designation and the reasons for it shall be specifically mentioned in the river basin management plans required under Article 13 and reviewed every six years.

⁽¹⁾ Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the prevention and control of groundwater pollution (OJ L 372, 27.12.2006, p. 19, ELI: <http://data.europa.eu/eli/dir/2006/118/oj>)

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4. ►**M6** The time limits laid down in paragraph 1 may be extended for the purposes of phased achievement of the objectives for bodies of water, provided that no further deterioration occurs in the status of the affected body of water when all the following conditions are met: ◀

- (a) Member States determine that all necessary improvements in the status of bodies of water cannot reasonably be achieved within the timescales set out in that paragraph for at least one of the following reasons:
 - (i) the scale of improvements required can only be achieved in phases exceeding the timescale, for reasons of technical feasibility;
 - (ii) completing the improvements within the timescale would be disproportionately expensive;
 - (iii) natural conditions do not allow timely improvement in the status of the body of water.
- (b) Extension of the deadline, and the reasons for it, are specifically set out and explained in the river basin management plan required under Article 13.
- (c) Extensions shall be limited to a maximum of two further updates of the river basin management plan except in cases where the natural conditions are such that the objectives cannot be achieved within this period.
- (d) A summary of the measures required under Article 11 which are envisaged as necessary to bring the bodies of water progressively to the required status by the extended deadline, the reasons for any significant delay in making these measures operational, and the expected timetable for their implementation are set out in the river basin management plan. A review of the implementation of these measures and a summary of any additional measures shall be included in updates of the river basin management plan.

5. Member States may aim to achieve less stringent environmental objectives than those required under paragraph 1 for specific bodies of water when they are so affected by human activity, as determined in accordance with Article 5(1), or their natural condition is such that the achievement of these objectives would be infeasible or disproportionately expensive, and all the following conditions are met:

- (a) the environmental and socioeconomic needs served by such human activity cannot be achieved by other means, which are a significantly better environmental option not entailing disproportionate costs;
- (b) Member States ensure,
 - for surface water, the highest ecological and chemical status possible is achieved, given impacts that could not reasonably have been avoided due to the nature of the human activity or pollution,

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- for groundwater, the least possible changes to good groundwater status, given impacts that could not reasonably have been avoided due to the nature of the human activity or pollution;
- (c) no further deterioration occurs in the status of the affected body of water;
- (d) the establishment of less stringent environmental objectives, and the reasons for it, are specifically mentioned in the river basin management plan required under Article 13 and those objectives are reviewed every six years.
6. Temporary deterioration in the status of bodies of water shall not be in breach of the requirements of this Directive if this is the result of circumstances of natural cause or *force majeure* which are exceptional or could not reasonably have been foreseen, in particular extreme floods and prolonged droughts, or the result of circumstances due to accidents which could not reasonably have been foreseen, when all of the following conditions have been met:
- (a) all practicable steps are taken to prevent further deterioration in status and in order not to compromise the achievement of the objectives of this Directive in other bodies of water not affected by those circumstances;
- (b) the conditions under which circumstances that are exceptional or that could not reasonably have been foreseen may be declared, including the adoption of the appropriate indicators, are stated in the river basin management plan;
- (c) the measures to be taken under such exceptional circumstances are included in the programme of measures and will not compromise the recovery of the quality of the body of water once the circumstances are over;
- (d) the effects of the circumstances that are exceptional or that could not reasonably have been foreseen are reviewed annually and, subject to the reasons set out in paragraph 4(a), all practicable measures are taken with the aim of restoring the body of water to its status prior to the effects of those circumstances as soon as reasonably practicable, and
- (e) a summary of the effects of the circumstances and of such measures taken or to be taken in accordance with paragraphs (a) and (d) are included in the next update of the river basin management plan.
7. Member States will not be in breach of this Directive when:
- failure to achieve good groundwater status, good ecological status or, where relevant, good ecological potential or to prevent deterioration in the status of a body of surface water or groundwater is the result of new modifications to the physical characteristics of a surface water body or alterations to the level of bodies of groundwater, or

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- failure to prevent deterioration from high status to good status of a body of surface water is the result of new sustainable human development activities

and all the following conditions are met:

- (a) all practicable steps are taken to mitigate the adverse impact on the status of the body of water;
- (b) the reasons for those modifications or alterations are specifically set out and explained in the river basin management plan required under Article 13 and the objectives are reviewed every six years;
- (c) the reasons for those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1 are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development, and
- (d) the beneficial objectives served by those modifications or alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option.

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7a. Member States will not be in breach of this Directive when any negative short-term impact on one or more quality elements of a body of water caused by a new project or a modification to an existing project in that body of water is no longer detectable after one year or, for biological quality elements, after a maximum of three years beyond initiation of the execution of the project, and all the following conditions are met:

- (a) the negative impact is not the result of direct discharges, emissions or losses of a pollutant;
- (b) the potential for the negative impact to occur is reliably assessed *ex ante* by a competent authority, and it is concluded that there would be no negative impact for the body of water concerned or any connected body of water after one year or, for biological quality elements, after a maximum of three years;
- (c) an *ex post* verification is carried out;
- (d) all practicable measures are taken to mitigate any negative impacts on the body and any connected bodies of water; and
- (e) a summary of the main activities carried out in accordance with this paragraph, the relevant *ex post* verification results, and the measures taken to mitigate negative impacts, is included in the river basin management plan required under Article 13.

For the purposes of carrying out the *ex -post* verification under point (c) of the first subparagraph, existing monitoring arrangements set up pursuant to Annex V may be used and, where necessary, they shall be supplemented by additional ad-hoc monitoring.

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7b. Member States will not be in breach of this Directive when deterioration occurs in the status of a receiving body of surface water as a result of relocating, by human activity, water or sediment from the same or another body of surface water, or from a body of groundwater to the receiving body of surface water, without causing a net increase in pollutant load, and all the following conditions are met:

- (a) all practicable steps, in particular the treatment of the water or sediment, if feasible, to minimise the transfer of pollutant load are taken to mitigate the adverse impact on the status of the bodies of water impacted by the relocation;
- (b) the composition of the water or sediments to be relocated is established, and the relocation does not increase the overall risk to human health and the environment compared to the existing risk prior to the relocation;
- (c) the receiving body of surface water is confirmed as already not being in good chemical status with respect to most of the pollutants relocated, and in particular with respect to the most persistent and bioaccumulative pollutants relocated, and the ecological status or potential of the receiving body of water is not expected to fall into a lower class as a result of the relocation of those pollutants;
- (d) the relocation shall not result in an increase in the purification treatment required for the production of drinking water;
- (e) within the receiving body of water, a zone where relocation is prohibited has been established around any abstraction point for water intended for human consumption;
- (f) there are no significantly better environmental options for reasons of technical feasibility or disproportionate cost;
- (g) the relocation is subject to prior regulation or authorisation; and
- (h) a summary, including information related to points (a) to (g) of this paragraph and the reasons for the relocation, is included in the river basin management plan required under Article 13.

8. When applying paragraphs 3 to 7b, Member States shall ensure that the achievement of the objectives of this Directive in other bodies of water within the same river basin district is not thereby permanently excluded or compromised and that the application of those provisions is consistent with the implementation of other Union environmental legislation.

9. Member States shall take steps to ensure that the application of the new provisions, including the application of paragraphs 3 to 7b, guarantees at least the same level of protection as the existing Union legislation.

▼B*Article 5*

Characteristics of the river basin district, review of the environmental impact of human activity and economic analysis of water use

1. Each Member State shall ensure that for each river basin district or for the portion of an international river basin district falling within its territory:

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- an analysis of its characteristics,
- a review of the impact of human activity on the status of surface waters and on groundwater, and
- an economic analysis of water use

is undertaken according to the technical specifications set out in Annexes II and III and that it is completed at the latest four years after the date of entry into force of this Directive.

2. The analyses and reviews mentioned under paragraph 1 shall be reviewed, and if necessary updated at the latest 13 years after the date of entry into force of this Directive and every six years thereafter.

*Article 6***Register of protected areas**

1. Member States shall ensure the establishment of a register or registers of all areas lying within each river basin district which have been designated as requiring special protection under specific Community legislation for the protection of their surface water and groundwater or for the conservation of habitats and species directly depending on water. They shall ensure that the register is completed at the latest four years after the date of entry into force of this Directive.

2. The register or registers shall include all bodies of water identified under Article 7(1) and all protected areas covered by Annex IV.

3. For each river basin district, the register or registers of protected areas shall be kept under review and up to date.

*Article 7***Waters used for the abstraction of drinking water**

1. Member States shall identify, within each river basin district:
- all bodies of water used for the abstraction of water intended for human consumption providing more than 10 m³ a day as an average or serving more than 50 persons, and
 - those bodies of water intended for such future use.

Member States shall monitor, in accordance with Annex V, those bodies of water which according to Annex V, provide more than 100 m³ a day as an average.

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2. For each body of water identified under paragraph 1 of this Article, in addition to meeting the objectives of Article 4 of this Directive in accordance with the requirements of this Directive, and for surface water bodies including the quality standards established at Union level in accordance with Article 16 of this Directive, Member States shall ensure that under the water treatment regime applied, and in accordance with Union legislation, the resulting water will meet the requirements of Directive (EU) 2020/2184.

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3. Member States shall ensure the necessary protection for the bodies of water identified with the aim of avoiding deterioration in their quality in order to reduce the level of purification treatment required in the production of drinking water. Member States may establish safeguard zones for those bodies of water.

*Article 8***Monitoring of surface water status, groundwater status and protected areas**

1. Member States shall ensure the establishment of programmes for the monitoring of water status in order to establish a coherent and comprehensive overview of water status within each river basin district:

— for surface waters such programmes shall cover:

(i) the volume and level or rate of flow to the extent relevant for ecological and chemical status and ecological potential, and

(ii) the ecological and chemical status and ecological potential;

— for groundwaters such programmes shall cover monitoring of the chemical and quantitative status,

— for protected areas the above programmes shall be supplemented by those specifications contained in Community legislation under which the individual protected areas have been established.

2. These programmes shall be operational at the latest six years after the date of entry into force of this Directive unless otherwise specified in the legislation concerned. Such monitoring shall be in accordance with the requirements of Annex V.

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3. The Commission is empowered to adopt implementing acts to set out technical specifications and standardised methods for analysis and monitoring of water status in accordance with Annex V, to establish formats for the reporting of monitoring and status data, to adopt the results of the intercalibration exercise and the values established for the Member State monitoring system classifications in accordance with Section 1.4.1(ix) of Annex V, and to adopt indicators of progress allowing comparison of the progress made by Member States towards achieving the good status or potential of their water bodies. When establishing the formats for the reporting of monitoring and status data, the Commission may avail itself of technical and scientific support available from the European Environment Agency (EEA). Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 21(2).

▼M8

4. Member States shall ensure that the available and validated monitoring data on biological quality elements in surface waters collected in accordance with Section 1.3 of Annex V to this Directive are made available to the public and to the EEA every three years, and that the available and validated monitoring data on chemical quality elements in surface waters and groundwater collected in accordance with Sections 1.3 and 2.4 of Annex V to this Directive are made available to the public and to the EEA every two years electronically in accordance with Directives 2003/4/EC ⁽¹⁾, 2007/2/EC ⁽²⁾ and (EU) 2019/1024 ⁽³⁾ of the European Parliament and of the Council. For those purposes, Member States shall use the formats established in accordance with paragraph 3 of this Article and automated reporting and data delivery mechanisms aligned with the relevant Water Information System for Europe State of the Environment data flows.

5. The EEA shall ensure that the information made available in accordance with paragraph 4 is regularly processed and analysed for the purpose of making it available, via relevant Union portals, for reuse by the Commission and relevant Union agencies and for the purpose of providing the Commission, the Member States and the public with objective, reliable and comparable information, in accordance with Regulation (EC) No 401/2009 of the European Parliament and of the Council ⁽⁴⁾.

6. By 11 November 2027, the Commission shall publish a report on options for the establishment, financing and functioning of a European Union joint monitoring facility.

The report shall take into account, inter alia, the following:

- (a) the voluntary nature of the use of such a joint monitoring facility;
- (b) the scope of the analyses to be performed by such a facility, including the range of substances and indicators to be covered from the lists established under this Directive, Directive 2006/118/EC and Directive 2008/105/EC of the European Parliament and of the Council ⁽⁵⁾;

⁽¹⁾ Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC (OJ L 41, 14.2.2003, p. 26, ELI: <http://data.europa.eu/eli/dir/2003/4/oj>).

⁽²⁾ Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) (OJ L 108, 25.4.2007, p. 1, ELI: <http://data.europa.eu/eli/dir/2007/2/oj>).

⁽³⁾ Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information (OJ L 172, 26.6.2019, p. 56, ELI: <http://data.europa.eu/eli/dir/2019/1024/oj>).

⁽⁴⁾ Regulation (EC) No 401/2009 of the European Parliament and of the Council of 23 April 2009 on the European Environment Agency and the European Environment Information and Observation Network (OJ L 126, 21.5.2009, p. 13, ELI: <http://data.europa.eu/eli/reg/2009/401/oj>).

⁽⁵⁾ Directive 2008/105/EC of the European Parliament and of the Council of 16 December 2008 on environmental quality standards in the field of water policy, amending and subsequently repealing Council Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending Directive 2000/60/EC of the European Parliament and of the Council (OJ L 348, 24.12.2008, p. 84, ELI: <http://data.europa.eu/eli/dir/2008/105/oj>).

▼M8

- (c) the sources of funding for such a facility, which may include Union co-funding;
- (d) the operating model of such a facility, considering both centralised and decentralised options;

Following the report, the Commission shall, where appropriate, present a legislative proposal in order to establish a European Union joint monitoring facility.

▼B*Article 9***Recovery of costs for water services**

1. Member States shall take account of the principle of recovery of the costs of water services, including environmental and resource costs, having regard to the economic analysis conducted according to Annex III, and in accordance in particular with the polluter pays principle.

Member States shall ensure by 2010

- that water-pricing policies provide adequate incentives for users to use water resources efficiently, and thereby contribute to the environmental objectives of this Directive,
- an adequate contribution of the different water uses, disaggregated into at least industry, households and agriculture, to the recovery of the costs of water services, based on the economic analysis conducted according to Annex III and taking account of the polluter pays principle.

Member States may in so doing have regard to the social, environmental and economic effects of the recovery as well as the geographic and climatic conditions of the region or regions affected.

2. Member States shall report in the river basin management plans on the planned steps towards implementing paragraph 1 which will contribute to achieving the environmental objectives of this Directive and on the contribution made by the various water uses to the recovery of the costs of water services.

3. Nothing in this Article shall prevent the funding of particular preventive or remedial measures in order to achieve the objectives of this Directive.

4. Member States shall not be in breach of this Directive if they decide in accordance with established practices not to apply the provisions of paragraph 1, second sentence, and for that purpose the relevant provisions of paragraph 2, for a given water-use activity, where this does not compromise the purposes and the achievement of the objectives of this Directive. Member States shall report the reasons for not fully applying paragraph 1, second sentence, in the river basin management plans.

*Article 10***The combined approach for point and diffuse sources**

1. Member States shall ensure that all discharges referred to in paragraph 2 into surface waters are controlled according to the combined approach set out in this Article.

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2. For the purpose of complying with the objectives, quality standards and threshold values established pursuant to this Directive, Member States shall ensure the establishment and implementation of the following:

- (a) emission controls based on best available techniques;
- (b) relevant emission limit values;
- (c) in the case of diffuse impacts, controls including, as appropriate, best environmental practices,

in accordance with Council Directive 91/676/EEC ⁽¹⁾ and Directives 2009/128/EC ⁽²⁾, 2010/75/EU ⁽³⁾ and (EU) 2024/3019 ⁽⁴⁾ of the European Parliament and of the Council, as well as any other Union legislation relevant for addressing point source or diffuse pollution including any relevant legislation adopted in accordance with Article 16 of this Directive.

3. Where a quality objective, quality standard or threshold, whether established pursuant to this Directive, to Directives 2006/118/EC or 2008/105/EC, or pursuant to any other Union legislation, requires stricter conditions than those which would result from the application of paragraph 2, more stringent emission controls shall be set accordingly.

▼B*Article 11***Programme of measures**

1. Each Member State shall ensure the establishment for each river basin district, or for the part of an international river basin district within its territory, of a programme of measures, taking account of the results of the analyses required under Article 5, in order to achieve the objectives established under Article 4. Such programmes of measures may make reference to measures following from legislation adopted at national level and covering the whole of the territory of a Member State. Where appropriate, a Member State may adopt measures applicable to all river basin districts and/or the portions of international river basin districts falling within its territory.

⁽¹⁾ Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (OJ L 375, 31.12.1991, p. 1, ELI: <http://data.europa.eu/eli/dir/1991/676/oj>).

⁽²⁾ Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides (OJ L 309, 24.11.2009, p. 71, ELI: <http://data.europa.eu/eli/dir/2009/128/oj>).

⁽³⁾ Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial and livestock rearing emissions (integrated pollution prevention and control) (OJ L 334, 17.12.2010, p. 17, ELI: <http://data.europa.eu/eli/dir/2010/75/oj>).

⁽⁴⁾ Directive (EU) 2024/3019 of the European Parliament and of the Council of 27 November 2024 concerning urban wastewater treatment (OJ L, 2024/3019, 12.12.2024, ELI: <http://data.europa.eu/eli/dir/2024/3019/oj>).

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1a. In addressing chemical pollution, Member States shall, where possible, prioritise source-control measures in accordance with the relevant Union sectoral legislation on pollution. Where necessary, measures to reduce the risk from potential pollutants already in products and from pollutants already in the environment shall also be considered for the purpose of achieving the good status of water bodies.

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2. Each programme of measures shall include the ‘basic’ measures specified in paragraph 3 and, where necessary, ‘supplementary’ measures.

3. ‘Basic measures’ are the minimum requirements to be complied with and shall consist of:

- (a) those measures required to implement Community legislation for the protection of water, including measures required under the legislation specified in Article 10 and in part A of Annex VI;
- (b) measures deemed appropriate for the purposes of Article 9;
- (c) measures to promote an efficient and sustainable water use in order to avoid compromising the achievement of the objectives specified in Article 4;
- (d) measures to meet the requirements of Article 7, including measures to safeguard water quality in order to reduce the level of purification treatment required for the production of drinking water;
- (e) controls over the abstraction of fresh surface water and groundwater, and impoundment of fresh surface water, including a register or registers of water abstractions and a requirement of prior authorisation for abstraction and impoundment. These controls shall be periodically reviewed and, where necessary, updated. Member States can exempt from these controls, abstractions or impoundments which have no significant impact on water status;
- (f) controls, including a requirement for prior authorisation of artificial recharge or augmentation of groundwater bodies. The water used may be derived from any surface water or groundwater, provided that the use of the source does not compromise the achievement of the environmental objectives established for the source or the recharged or augmented body of groundwater. These controls shall be periodically reviewed and, where necessary, updated;
- (g) for point source discharges liable to cause pollution, a requirement for prior regulation, such as a prohibition on the entry of pollutants into water, or for prior authorisation, or registration based on general binding rules, laying down emission controls for the pollutants concerned, including controls in accordance with Articles 10 and 16. These controls shall be periodically reviewed and, where necessary, updated;

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- (h) for diffuse sources liable to cause pollution, measures to prevent or control the input of pollutants. Controls may take the form of a requirement for prior regulation, such as a prohibition on the entry of pollutants into water, prior authorisation or registration based on general binding rules where such a requirement is not otherwise provided for under Community legislation. These controls shall be periodically reviewed and, where necessary, updated;
- (i) for any other significant adverse impacts on the status of water identified under Article 5 and Annex II, in particular measures to ensure that the hydromorphological conditions of the bodies of water are consistent with the achievement of the required ecological status or good ecological potential for bodies of water designated as artificial or heavily modified. Controls for this purpose may take the form of a requirement for prior authorisation or registration based on general binding rules where such a requirement is not otherwise provided for under Community legislation. Such controls shall be periodically reviewed and, where necessary, updated;
- (j) a prohibition of direct discharges of pollutants into groundwater subject to the following provisions:

Member States may authorise reinjection into the same aquifer of water used for geothermal purposes.

They may also authorise, specifying the conditions for:

- injection of water containing substances resulting from the operations for exploration and extraction of hydrocarbons or mining activities, and injection of water for technical reasons, into geological formations from which hydrocarbons or other substances have been extracted or into geological formations which for natural reasons are permanently unsuitable for other purposes. Such injections shall not contain substances other than those resulting from the above operations,
- reinjection of pumped groundwater from mines and quarries or associated with the construction or maintenance of civil engineering works,
- injection of natural gas or liquefied petroleum gas (LPG) for storage purposes into geological formations which for natural reasons are permanently unsuitable for other purposes,

▼M4

- injection of carbon dioxide streams for storage purposes into geological formations which for natural reasons are permanently unsuitable for other purposes, provided that such injection is made in accordance with Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide ⁽¹⁾ or excluded from the scope of that Directive pursuant to its Article 2(2),

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- injection of natural gas or liquefied petroleum gas (LPG) for storage purposes into other geological formations where there is an overriding need for security of gas supply, and where the injection is such as to prevent any present or future danger of deterioration in the quality of any receiving groundwater,

⁽¹⁾ OJ L 140, 5.6.2009, p. 114.

▼B

- construction, civil engineering and building works and similar activities on, or in the ground which come into contact with groundwater. For these purposes, Member States may determine that such activities are to be treated as having been authorised provided that they are conducted in accordance with general binding rules developed by the Member State in respect of such activities,
- discharges of small quantities of substances for scientific purposes for characterisation, protection or remediation of water bodies limited to the amount strictly necessary for the purposes concerned

provided such discharges do not compromise the achievement of the environmental objectives established for that body of groundwater;

▼M8

- (k) in accordance with action taken pursuant to Article 16, measures to eliminate pollution of surface waters by priority hazardous substances and to progressively reduce pollution by other substances which would otherwise prevent Member States from achieving the environmental objectives for the bodies of surface waters set out in Article 4;

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- (l) any measures required to prevent significant losses of pollutants from technical installations, and to prevent and/or to reduce the impact of accidental pollution incidents for example as a result of floods, including through systems to detect or give warning of such events including, in the case of accidents which could not reasonably have been foreseen, all appropriate measures to reduce the risk to aquatic ecosystems.

4. ‘Supplementary’ measures are those measures designed and implemented in addition to the basic measures, with the aim of achieving the objectives established pursuant to Article 4. Part B of Annex VI contains a non-exclusive list of such measures.

Member States may also adopt further supplementary measures in order to provide for additional protection or improvement of the waters covered by this Directive, including in implementation of the relevant international agreements referred to in Article 1.

5. Where monitoring or other data indicate that the objectives set under Article 4 for the body of water are unlikely to be achieved, the Member State shall ensure that:

- the causes of the possible failure are investigated,

▼M8

- relevant permits and authorisations are reviewed and revised, as appropriate,

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- the monitoring programmes are reviewed and adjusted as appropriate, and
- additional measures as may be necessary in order to achieve those objectives are established, including, as appropriate, the establishment of stricter environmental quality standards following the procedures laid down in Annex V.

▼ B

Where those causes are the result of circumstances of natural cause or *force majeure* which are exceptional and could not reasonably have been foreseen, in particular extreme floods and prolonged droughts, the Member State may determine that additional measures are not practicable, subject to Article 4(6).

6. In implementing measures pursuant to paragraph 3, Member States shall take all appropriate steps not to increase pollution of marine waters. Without prejudice to existing legislation, the application of measures taken pursuant to paragraph 3 may on no account lead, either directly or indirectly to increased pollution of surface waters. This requirement shall not apply where it would result in increased pollution of the environment as a whole.

7. The programmes of measures shall be established at the latest nine years after the date of entry into force of this Directive and all the measures shall be made operational at the latest 12 years after that date.

▼ M6

As regards Mayotte, the time limits referred to in the first subparagraph shall be 22 December 2015 and 22 December 2018, respectively.

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8. The programmes of measures shall be reviewed, and if necessary updated at the latest 15 years after the date of entry into force of this Directive and every six years thereafter. Any new or revised measures established under an updated programme shall be made operational within three years of their establishment.

▼ M6

As regards Mayotte, the time limit referred to in the first subparagraph shall be 22 December 2021.

▼ M8*Article 12***Issues which cannot be dealt with at Member State level**

1. Where a Member State identifies an issue which has an impact on the management of its water but which cannot be resolved by that Member State, it shall notify the issue to the competent authorities of any relevant Member State and, where an international river basin district is concerned, to any relevant coordination structure identified under Article 3(4) and make recommendations for the resolution of it.

2. The Member States concerned shall cooperate to identify the sources of the issues referred to in paragraph 1 and the measures required for addressing those issues.

Member States shall respond to each other in a timely manner and no later than three months after the notification referred to paragraph 1.

3. The Commission shall be informed of, and be invited to assist in, any cooperation referred to in paragraph 2 of this Article. Where appropriate, the Commission shall, taking into account the plans reported pursuant to Article 15, consider whether further action needs to be taken at Union level in order to reduce the transboundary impacts on water bodies.;

▼M8

4. The Commission shall comment within a period of six months on any recommendations received from Member States in the context of the cooperation referred to in paragraphs 2 and 3.

5. Where a Member State faces exceptional circumstances of natural or anthropogenic origin or *force majeure*, in particular extreme floods and prolonged droughts, or significant pollution incidents, which could affect water bodies situated in other Member States, it shall ensure that the competent authorities for the affected water bodies in those Member States, as well as any relevant coordination structure identified under Article 3(4) for an international river basin, and the Commission, are informed without delay, and that the necessary cooperation, if not already in place, is established between the Member States affected and used to investigate the causes and address the consequences of the exceptional circumstances or incidents and mobilise emergency response as appropriate.

▼B*Article 13***River basin management plans**

1. Member States shall ensure that a river basin management plan is produced for each river basin district lying entirely within their territory.

2. In the case of an international river basin district falling entirely within the Community, Member States shall ensure coordination with the aim of producing a single international river basin management plan. Where such an international river basin management plan is not produced, Member States shall produce river basin management plans covering at least those parts of the international river basin district falling within their territory to achieve the objectives of this Directive.

3. In the case of an international river basin district extending beyond the boundaries of the Community, Member States shall endeavour to produce a single river basin management plan, and, where this is not possible, the plan shall at least cover the portion of the international river basin district lying within the territory of the Member State concerned.

4. The river basin management plan shall include the information detailed in Annex VII.

5. River basin management plans may be supplemented by the production of more detailed programmes and management plans for sub-basin, sector, issue, or water type, to deal with particular aspects of water management. Implementation of these measures shall not exempt Member States from any of their obligations under the rest of this Directive.

6. River basin management plans shall be published at the latest nine years after the date of entry into force of this Directive.

▼M6

As regards Mayotte, the time limit referred to in the first subparagraph shall be 22 December 2015.

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7. River basin management plans shall be reviewed and updated at the latest 15 years after the date of entry into force of this Directive and every six years thereafter.

▼M6

As regards Mayotte, the time limit referred to in the first subparagraph shall be 22 December 2021.

▼B*Article 14***Public information and consultation**

1. Member States shall encourage the active involvement of all interested parties in the implementation of this Directive, in particular in the production, review and updating of the river basin management plans. Member States shall ensure that, for each river basin district, they publish and make available for comments to the public, including users:

- (a) a timetable and work programme for the production of the plan, including a statement of the consultation measures to be taken, at least three years before the beginning of the period to which the plan refers;
- (b) an interim overview of the significant water management issues identified in the river basin, at least two years before the beginning of the period to which the plan refers;
- (c) draft copies of the river basin management plan, at least one year before the beginning of the period to which the plan refers.

On request, access shall be given to background documents and information used for the development of the draft river basin management plan.

2. Member States shall allow at least six months to comment in writing on those documents in order to allow active involvement and consultation.

3. Paragraphs 1 and 2 shall apply equally to updated river basin management plans.

▼M8*Article 14a***Access to justice**

1. In line with the objective of contributing to the implementation of the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters ⁽¹⁾, signed in Aarhus on 25 June 1998, Member States shall ensure that in accordance with the relevant national legal system, members of the public concerned have access to a review procedure before a court of law or another independent and impartial body established by law, to challenge the substantive or procedural legality of decisions, acts or omissions subject to Articles 4 and 11 and Article 13(1) of this Directive, where at least one of the following conditions is met:

⁽¹⁾ OJ L 124, 17.5.2005, p. 4, ELI: <http://data.europa.eu/eli/convention/2005/370/oj>.

▼M8

- (a) they have a sufficient interest; or
- (b) they maintain the impairment of a right, where administrative procedural law of a Member State requires this as a precondition.

2. Member States shall determine what constitutes a sufficient interest and impairment of a right, consistent with the objective of giving the public concerned wide access to justice. To this end, the interest of any non-governmental organisation promoting environmental protection and meeting any requirements under national law shall be deemed sufficient for the purpose of paragraph 1(a). Such organisations shall also be deemed to have rights capable of being impaired for the purpose of paragraph 1(b).

3. Standing in the review procedure shall not be conditional on the role that the member of the public concerned played during a participatory phase of the decision-making procedures under this Directive.

4. Member States shall determine at what stage the decisions, acts or omissions referred to in paragraph 1 may be challenged.

5. The review procedure shall be fair, equitable, timely and not prohibitively expensive, and shall provide for adequate and effective redress mechanisms, including injunctive relief where appropriate.

6. Member States shall ensure that practical information is made available to the public on access to administrative and judicial review procedures referred to in this Article.

▼B*Article 15***Reporting**

1. Member States shall send copies of the river basin management plans and all subsequent updates to the Commission and to any other Member State concerned within three months of their publication:

- (a) for river basin districts falling entirely within the territory of a Member State, all river management plans covering that national territory and published pursuant to Article 13;
- (b) for international river basin districts, at least the part of the river basin management plans covering the territory of the Member State.

2. Member States shall submit summary reports of:

- the analyses required under Article 5, and
- the monitoring programmes designed under Article 8

undertaken for the purposes of the first river basin management plan within three months of their completion.

▼M8

*Article 16***Strategies against pollution of water**

1. The European Parliament and the Council shall adopt specific measures against pollution of water by individual pollutants or groups of pollutants presenting a significant risk to or via the aquatic environment, including such risks to waters used for the abstraction of drinking water. For those pollutants, measures shall be aimed at the progressive reduction of priority substances, as defined in Article 2(30), and at the cessation or phasing-out of discharges, emissions and losses of priority hazardous substances, as defined in Article 2(30a). Such measures shall be adopted acting on the proposals presented by the Commission in accordance with the procedures laid down in the Treaty.

2. The Commission shall review the list of priority substances and the corresponding EQS for those substances set out in Part A of Annex I to Directive 2008/105/EC by 11 May 2032 and every six years thereafter, and, where appropriate, accompany the review with a legislative proposal to update the list of priority substances and the corresponding EQS in surface water, sediment or biota. In conducting the review, the Commission shall prioritise substances for action on the basis of risk to or via the aquatic environment, identified by:

- (a) risk assessment carried out under Directive 2001/83/EC of the European Parliament and of the Council ⁽¹⁾, Regulation (EC) No 1907/2006 of the European Parliament and of the Council ⁽²⁾, Directive 2009/128/EC and Regulations (EC) No 1107/2009 ⁽³⁾, (EU) No 528/2012 ⁽⁴⁾ and (EU) 2019/6 ⁽⁵⁾ of the European Parliament and of the Council; or
- (b) a simplified risk-based assessment procedure based on scientific principles, taking particular account of:

⁽¹⁾ Directive 2001/83/EC of the European Parliament and of the Council of 6 November 2001 on the Community code relating to medicinal products for human use (OJ L 311, 28.11.2001, p. 67, ELI: <http://data.europa.eu/eli/dir/2001/83/oj>).

⁽²⁾ Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (OJ L 396, 30.12.2006, p. 1, ELI: <http://data.europa.eu/eli/reg/2006/1907/oj>).

⁽³⁾ Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC (OJ L 309, 24.11.2009, p. 1, ELI: <http://data.europa.eu/eli/reg/2009/1107/oj>).

⁽⁴⁾ Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products (OJ L 167, 27.6.2012, p. 1, ELI: <http://data.europa.eu/eli/reg/2012/528/oj>).

⁽⁵⁾ Regulation (EU) 2019/6 of the European Parliament and of the Council of 11 December 2018 on veterinary medicinal products and repealing Directive 2001/82/EC (OJ L 4, 7.1.2019, p. 43, ELI: <http://data.europa.eu/eli/reg/2019/6/oj>).

▼M8

- evidence regarding the intrinsic hazard of the substance concerned, and in particular its aquatic ecotoxicity and human toxicity via aquatic exposure routes,
- evidence from monitoring of widespread environmental contamination, including monitoring data reported by the Member States to the Commission in accordance with Article 8b(4) of Directive 2008/105/EC, and
- other proven factors which could indicate the possibility of widespread environmental contamination, such as production or use volume of the substance concerned, and use patterns.

3. In the course of the review referred to in paragraph 2, the Commission shall categorise, where appropriate, the priority substances into one or more of the following categories:

- (a) priority hazardous substances;
- (b) substances behaving like ubiquitous persistent bioaccumulative and toxic substances (uPBTs);
- (c) substances that tend to accumulate in sediment or in biota, or in both.

In doing so, the Commission shall take into account the identification of substances of concern under other, relevant, Union legislation concerning hazardous substances, including Regulation (EC) No 1272/2008 of the European Parliament and of the Council ⁽¹⁾, in relevant international agreements, and in relevant scientific reports. Particular account shall be taken of substances meeting the criteria in Article 57 of Regulation (EC) No 1907/2006 where the criteria of concern are relevant to the aquatic environment.

3a. As part of the review and accompanying proposal referred to in paragraph 2 of this Article the Commission shall, where appropriate, propose the deselection of substances from the list of substances in Part A of Annex I to Directive 2008/105/EC if they no longer pose a significant risk to or via the aquatic environment within the Union and include them in the repository of harmonised EQS for river basin specific pollutants in Part C of Annex II to that Directive. The proposal shall take into account the results of Member States' assessments of pressures and impacts on surface water bodies carried out in accordance with Annex II to this Directive. Member States shall implement the corresponding harmonised EQS if the pollutants are of national or regional concern, in accordance with Article 8d of Directive 2008/105/EC.

4. The Commission shall review the list of river basin specific pollutants and corresponding EQS in Part C of Annex II to Directive 2008/105/EC by 11 May 2032 and every six years thereafter, and, where appropriate, accompany the review with a legislative proposal to update that list.

⁽¹⁾ Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (OJ L 353, 31.12.2008, p. 1, ELI: <http://data.europa.eu/eli/reg/2008/1272/oj>).

▼ **M8**

4a. When identifying river basin specific pollutants for which it could be necessary to set EQS at Union level, the Commission shall take into account the following criteria:

- (a) the risk posed by the pollutants, including their hazard, their environmental concentrations and the concentration above which effects might be expected, as well as possible cumulative effects;
- (b) the disparity between the national EQS set for river basin specific pollutants by different Member States and the degree to which such disparity is justifiable;
- (c) the number of Member States already implementing EQS for the river basin specific pollutants under consideration.

4b. The Commission shall review the indicative list of categories of river basin specific pollutants set out in Part A of Annex II to Directive 2008/105/EC by 11 May 2032 and every six years thereafter, and where appropriate, accompany the review with a legislative proposal to update that list.

5. For the purpose of assisting the Commission in its review of Annexes I and II to Directive 2008/105/EC, the European Chemicals Agency (ECHA) shall prepare scientific reports, which shall take account of the following:

- (a) the opinions of the Committee for Risk Assessment (RAC) and the Committee for Socio-Economic Analysis (SEAC) of ECHA;
- (b) the results of the monitoring programmes established in accordance with Article 8 of this Directive;
- (c) the monitoring data collected in accordance with Article 8b(4) of Directive 2008/105/EC;
- (d) the outcome of the reviews of the Annexes to Directives 2006/118/EC and (EU) 2020/2184;
- (e) requirements to address soil pollution, including related monitoring data;
- (f) Union research programmes and scientific publications, including information resulting from remote sensing technologies, earth observation, such as Copernicus services, *in situ* sensors and devices, and citizen science data, leveraging the opportunities offered by artificial intelligence, advanced data analysis and processing;
- (g) comments and information from relevant stakeholders; and
- (h) recommendations from the working groups established under the Common Implementation Strategy for Directive 2000/60/EC.

By 11 May 2030 and every six years thereafter, ECHA shall prepare and make publicly available a report summarising the findings of the scientific reports prepared under this paragraph.

▼M8

6. The Commission shall submit proposals, where appropriate, for controls to achieve:

- (a) the progressive reduction of discharges, emissions and losses of priority substances; and
- (b) in particular the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances as identified in accordance with paragraph 3, including, where appropriate, a timetable for doing so within 20 years of the designation of the substances as priority hazardous substances.

In doing so, the Commission shall identify the appropriate cost-effective and proportionate level and combination of product and process controls for both point and diffuse sources and take account of Union-wide uniform emission limit values for process controls. Where appropriate, action at Union level for process controls may be established on a sector-by-sector basis. Where product or process controls include a review of the relevant authorisations or substance approvals issued under Directive 2001/83/EC, Regulation (EC) No 1907/2006, Directive 2009/128/EC, Regulation (EC) No 1107/2009, Directive 2010/75/EU, Regulation (EU) No 528/2012 or Regulation (EU) 2019/6, such reviews shall be carried out in accordance with the provisions of those Directives and Regulations as indicated in Article 7a of Directive 2008/105/EC. Such reviews shall take into account the Commission's assessment in accordance with Article 7a (1) of Directive 2008/105/EC. Each proposal for controls shall, where appropriate, specify arrangements for their review and updating and for the assessment of their effectiveness.

7. The Commission may prepare strategies against water pollution by any other pollutants or groups of pollutants, including any such pollution which occurs as a result of accidents.

▼B*Article 17***Strategies to prevent and control pollution of groundwater**

1. The European Parliament and the Council shall adopt specific measures to prevent and control groundwater pollution. Such measures shall be aimed at achieving the objective of good groundwater chemical status in accordance with Article 4(1)(b) and shall be adopted, acting on the proposal presented within two years after the entry into force of this Directive, by the Commission in accordance with the procedures laid down in the Treaty.

2. In proposing measures the Commission shall have regard to the analysis carried out according to Article 5 and Annex II. Such measures shall be proposed earlier if data are available and shall include:

- (a) criteria for assessing good groundwater chemical status, in accordance with Annex II.2.2 and Annex V 2.3.2 and 2.4.5;

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- (b) criteria for the identification of significant and sustained upward trends and for the definition of starting points for trend reversals to be used in accordance with Annex V 2.4.4.

3. Measures resulting from the application of paragraph 1 shall be included in the programmes of measures required under Article 11.

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▼B*Article 18***Commission report**

1. The Commission shall publish a report on the implementation of this Directive at the latest 12 years after the date of entry into force of this Directive and every six years thereafter, and shall submit it to the European Parliament and to the Council.

2. The report shall include the following:

- (a) a review of progress in the implementation of the Directive;
- (b) a review of the status of surface water and groundwater in the Community undertaken in coordination with the European Environment Agency;
- (c) a survey of the river basin management plans submitted in accordance with Article 15, including suggestions for the improvement of future plans;
- (d) a summary of the response to each of the reports or recommendations to the Commission made by Member States pursuant to Article 12;
- (e) a summary of any proposals, control measures and strategies developed under Article 16;
- (f) a summary of the responses to comments made by the European Parliament and the Council on previous implementation reports.

3. The Commission shall also publish a report on progress in implementation based on the summary reports that Member States submit under Article 15(2), and submit it to the European Parliament and the Member States, at the latest two years after the dates referred to in Articles 5 and 8.

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5. The Commission shall convene when appropriate, in line with the reporting cycle, a conference of interested parties on Community water policy from each of the Member States, to comment on the Commission's implementation reports and to share experiences.

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Participants should include representatives from the competent authorities, the European Parliament, NGOs, the social and economic partners, consumer bodies, academics and other experts.

*Article 19***Plans for future Community measures**

1. Once a year, the Commission shall for information purposes present to the Committee referred to in Article 21 an indicative plan of measures having an impact on water legislation which it intends to propose in the near future, including any emerging from the proposals, control measures and strategies developed under Article 16. The Commission shall make the first such presentation at the latest two years after the date of entry into force of this Directive.

2. The Commission will review this Directive at the latest 19 years after the date of its entry into force and will propose any necessary amendments to it.

▼M8*Article 19a***Report on an extended producer responsibility mechanism**

By 11 May 2029, the Commission shall publish a report on the possibility to include in this Directive an extended producer responsibility mechanism. The report shall evaluate in particular the feasibility of requiring producers to contribute to the costs of monitoring programmes designed under Article 8 of this Directive if those producers place on the Union market products that contain any of the substances listed in Annex I to Directive 2006/118/EC or in Annex I to Directive 2008/105/EC.

*Article 20***Technical adaptations and implementation of this Directive**

The Commission is empowered to adopt delegated acts in accordance with Article 20a to amend Annexes I and III and Section 1.3.6 of Annex V in order to adapt the information requirements related to competent authorities, the content of the economic analysis and the selected monitoring standards, respectively, to scientific and technical progress.

*Article 20a***Exercise of the delegation**

1. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.

2. The power to adopt delegated acts referred to in Article 20 shall be conferred on the Commission for an indeterminate period of time from 10 May 2026.

3. The delegation of power referred to in Article 20 may be revoked at any time by the European Parliament and by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of the delegated acts already in force.

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4. Before adopting a delegated act, the Commission shall consult experts designated by each Member State in accordance with the principles laid down in the Interinstitutional Agreement of 13 April 2016 on Better Law-Making.

5. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.

6. A delegated act adopted pursuant to Article 20 shall enter into force only if no objection has been expressed either by the European Parliament or by the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council.

*Article 21***Committee procedure**

1. The Commission shall be assisted by a committee. That committee shall be a committee within the meaning of Regulation (EU) No 182/2011 of the European Parliament and of the Council ⁽¹⁾.

2. Where reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply.

Where the committee delivers no opinion, the Commission shall not adopt the draft implementing act and Article 5(4), third subparagraph, of Regulation (EU) No 182/2011 shall apply.

▼B*Article 22***Repeals and transitional provisions**

1. The following shall be repealed with effect from seven years after the date of entry into force of this Directive:

- Directive 75/440/EEC of 16 June 1975 concerning the quality required of surface water intended for the abstraction of drinking water in the Member States ⁽²⁾,
- Council Decision 77/795/EEC of 12 December 1977 establishing a common procedure for the exchange of information on the quality of surface freshwater in the Community ⁽³⁾,
- Council Directive 79/869/EEC of 9 October 1979 concerning the methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking waters in the Member States ⁽⁴⁾.

⁽¹⁾ Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers (OJ L 55, 28.2.2011, p. 13, ELI: <http://data.europa.eu/eli/reg/2011/182/oj>).

⁽²⁾ OJ L 194, 25.7.1975, p. 26. Directive as last amended by Directive 91/692/EEC.

⁽³⁾ OJ L 334, 24.12.1977, p. 29. Decision as last amended by the 1994 Act of Accession.

⁽⁴⁾ OJ L 271, 29.10.1979, p. 44. Directive as last amended by the 1994 Act of Accession.

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2. The following shall be repealed with effect from 13 years after the date of entry into force of this Directive:

- Council Directive 78/659/EEC of 18 July 1978 on the quality of freshwaters needing protection or improvement in order to support fish life ⁽¹⁾,
- Council Directive 79/923/EEC of 30 October 1979 on the quality required of shellfish waters ⁽²⁾,
- Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances,
- Directive 76/464/EEC, with the exception of Article 6, which shall be repealed with effect from the entry into force of this Directive.

3. The following transitional provisions shall apply for Directive 76/464/EEC:

- (a) the list of priority substances adopted under Article 16 of this Directive shall replace the list of substances prioritised in the Commission communication to the Council of 22 June 1982;
- (b) for the purposes of Article 7 of Directive 76/464/EEC, Member States may apply the principles for the identification of pollution problems and the substances causing them, the establishment of quality standards, and the adoption of measures, laid down in this Directive.

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4. The environmental objectives in Article 4, the environmental quality standards set out in Part A of Annex I to Directive 2008/105/EC and the environmental quality standards for river basin specific pollutants established pursuant to Article 16(4) of this Directive shall be regarded as environmental quality standards for the purposes of Directive 2010/75/EU.

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5. Where a substance on the list of priority substances adopted under Article 16 is not included in Annex VIII to this Directive or in Annex III to Directive 96/61/EC, it shall be added thereto.

6. For bodies of surface water, environmental objectives established under the first river basin management plan required by this Directive shall, as a minimum, give effect to quality standards at least as stringent as those required to implement Directive 76/464/EEC.

*Article 23***Penalties**

Member States shall determine penalties applicable to breaches of the national provisions adopted pursuant to this Directive. The penalties thus provided for shall be effective, proportionate and dissuasive.

⁽¹⁾ OJ L 222, 14.8.1978, p. 1. Directive as last amended by the 1994 Act of Accession.

⁽²⁾ OJ L 281, 10.11.1979, p. 47. Directive as amended by Directive 91/692/EEC.



Article 24

Implementation

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive at the latest 22 December 2003. They shall forthwith inform the Commission thereof.

When Member States adopt these measures, they shall contain a reference to this Directive or shall be accompanied by such a reference on the occasion of their official publication. The methods of making such a reference shall be laid down by the Member States.

2. Member States shall communicate to the Commission the texts of the main provisions of national law which they adopt in the field governed by this Directive. The Commission shall inform the other Member States thereof.

Article 25

Entry into force

This Directive shall enter into force on the day of its publication in the *Official Journal of the European Communities*.

Article 26

Addressees

This Directive is addressed to the Member States.

*ANNEX I***INFORMATION REQUIRED FOR THE LIST OF COMPETENT AUTHORITIES**

As required under Article 3(8), the Member States shall provide the following information on all competent authorities within each of its river basin districts as well as the portion of any international river basin district lying within their territory.

- (i) **Name and address of the competent authority** — the official name and address of the authority identified under Article 3(2).
- (ii) **Geographical coverage of the river basin district** — the names of the main rivers within the river basin district together with a precise description of the boundaries of the river basin district. This information should as far as possible be available for introduction into a geographic information system (GIS) and/or the geographic information system of the Commission (GISCO).
- (iii) **Legal status of competent authority** — a description of the legal status of the competent authority and, where relevant, a summary or copy of its statute, founding treaty or equivalent legal document.
- (iv) **Responsibilities** — a description of the legal and administrative responsibilities of each competent authority and of its role within each river basin district.
- (v) **Membership** — where the competent authority acts as a coordinating body for other competent authorities, a list is required of these bodies together with a summary of the institutional relationships established in order to ensure coordination.
- (vi) **International relationships** — where a river basin district covers the territory of more than one Member State or includes the territory of non-Member States, a summary is required of the institutional relationships established in order to ensure coordination.



ANNEX II

1 SURFACE WATERS

1.1. Characterisation of surface water body types

Member States shall identify the location and boundaries of bodies of surface water and shall carry out an initial characterisation of all such bodies in accordance with the following methodology. Member States may group surface water bodies together for the purposes of this initial characterisation.

- (i) The surface water bodies within the river basin district shall be identified as falling within either one of the following surface water categories — rivers, lakes, transitional waters or coastal waters — or as artificial surface water bodies or heavily modified surface water bodies.
- (ii) For each surface water category, the relevant surface water bodies within the river basin district shall be differentiated according to type. These types are those defined using either ‘system A’ or ‘system B’ identified in section 1.2.
- (iii) If system A is used, the surface water bodies within the river basin district shall first be differentiated by the relevant ecoregions in accordance with the geographical areas identified in section 1.2 and shown on the relevant map in Annex XI. The water bodies within each ecoregion shall then be differentiated by surface water body types according to the descriptors set out in the tables for system A.
- (iv) If system B is used, Member States must achieve at least the same degree of differentiation as would be achieved using system A. Accordingly, the surface water bodies within the river basin district shall be differentiated into types using the values for the obligatory descriptors and such optional descriptors, or combinations of descriptors, as are required to ensure that type specific biological reference conditions can be reliably derived.
- (v) For artificial and heavily modified surface water bodies the differentiation shall be undertaken in accordance with the descriptors for whichever of the surface water categories most closely resembles the heavily modified or artificial water body concerned.
- (vi) Member States shall submit to the Commission a map or maps (in a GIS format) of the geographical location of the types consistent with the degree of differentiation required under system A.

1.2. Ecoregions and surface water body types

1.2.1. Rivers

System A

Fixed typology	Descriptors
Ecoregion	Ecoregions shown on map A in Annex XI
Type	Altitude typology high: > 800 m mid-altitude: 200 to 800 m lowland: < 200 m Size typology based on catchment area small: 10 to 100 km ² medium: > 100 to 1 000 km ² large: > 1 000 to 10 000 km ² very large: > 10 000 km ²

▼ **B**

Fixed typology	Descriptors
	Geology calcareous siliceous organic
<i>System B</i>	
Alternative characterisation	Physical and chemical factors that determine the characteristics of the river or part of the river and hence the biological population structure and composition
Obligatory factors	altitude latitude longitude geology size
Optional factors	distance from river source energy of flow (function of flow and slope) mean water width mean water depth mean water slope form and shape of main river bed river discharge (flow) category valley shape transport of solids acid neutralising capacity mean substratum composition chloride air temperature range mean air temperature precipitation

1.2.2. L a k e s

<i>System A</i>	
Fixed typology	Descriptors
Ecoregion	Ecoregions shown on map A in Annex XI
Type	Altitude typology high: > 800 m mid-altitude: 200 to 800 m lowland: < 200 m Depth typology based on mean depth < 3 m 3 to 15 m > 15 m Size typology based on surface area 0,5 to 1 km ² 1 to 10 km ² 10 to 100 km ² > 100 km ² Geology calcareous siliceous organic

▼ **B***System B*

Alternative characterisation	Physical and chemical factors that determine the characteristics of the lake and hence the biological population structure and composition
Obligatory factors	altitude latitude longitude depth geology size
Optional factors	mean water depth lake shape residence time mean air temperature air temperature range mixing characteristics (e.g. monomictic, dimictic, polymictic) acid neutralising capacity background nutrient status mean substratum composition water level fluctuation

1.2.3. Transitional Waters

System A

Fixed typology	Descriptors
Ecoregion	The following as identified on map B in Annex XI: Baltic Sea Barents Sea Norwegian Sea North Sea North Atlantic Ocean Mediterranean Sea
Type	Based on mean annual salinity < 0,5 ‰: freshwater 0,5 to < 5 ‰: oligohaline 5 to < 18 ‰: mesohaline 18 to < 30 ‰: polyhaline 30 to < 40 ‰: euhaline Based on mean tidal range < 2 m: microtidal 2 to 4 m: mesotidal > 4 m: macrotidal

▼B*System B*

Alternative characterisation	Physical and chemical factors that determine the characteristics of the transitional water and hence the biological population structure and composition
Obligatory factors	latitude longitude tidal range salinity
Optional factors	depth current velocity wave exposure residence time mean water temperature mixing characteristics turbidity mean substratum composition shape water temperature range

1.2.4. Coastal Waters

System A

Fixed typology	Descriptors
Ecoregion	The following as identified on map B in Annex XI: Baltic Sea Barents Sea Norwegian Sea North Sea North Atlantic Ocean Mediterranean Sea
Type	Based on mean annual salinity < 0,5 ‰: freshwater 0,5 to < 5 ‰: oligohaline 5 to < 18 ‰: mesohaline 18 to < 30 ‰: polyhaline 30 to < 40 ‰: euhaline Based on mean depth shallow waters: < 30 m intermediate: (30 to 200 m) deep: > 200 m

System B

Alternative characterisation	Physical and chemical factors that determine the characteristics of the coastal water and hence the biological community structure and composition
Obligatory factors	latitude longitude tidal range salinity

▼B

Alternative characterisation	Physical and chemical factors that determine the characteristics of the coastal water and hence the biological community structure and composition
Optional factors	current velocity wave exposure mean water temperature mixing characteristics turbidity retention time (of enclosed bays) mean substratum composition water temperature range

1.3. Establishment of type-specific reference conditions for surface water body types

- (i) For each surface water body type characterised in accordance with section 1.1, type-specific hydromorphological and physicochemical conditions shall be established representing the values of the hydromorphological and physicochemical quality elements specified in point 1.1 in Annex V for that surface water body type at high ecological status as defined in the relevant table in point 1.2 in Annex V. Type-specific biological reference conditions shall be established, representing the values of the biological quality elements specified in point 1.1 in Annex V for that surface water body type at high ecological status as defined in the relevant table in section 1.2 in Annex V.
- (ii) In applying the procedures set out in this section to heavily modified or artificial surface water bodies references to high ecological status shall be construed as references to maximum ecological potential as defined in table 1.2.5 of Annex V. The values for maximum ecological potential for a water body shall be reviewed every six years.
- (iii) Type-specific conditions for the purposes of points (i) and (ii) and type-specific biological reference conditions may be either spatially based or based on modelling, or may be derived using a combination of these methods. Where it is not possible to use these methods, Member States may use expert judgement to establish such conditions. In defining high ecological status in respect of concentrations of specific synthetic pollutants, the detection limits are those which can be achieved in accordance with the available techniques at the time when the type-specific conditions are to be established.
- (iv) For spatially based type-specific biological reference conditions, Member States shall develop a reference network for each surface water body type. The network shall contain a sufficient number of sites of high status to provide a sufficient level of confidence about the values for the reference conditions, given the variability in the values of the quality elements corresponding to high ecological status for that surface water body type and the modelling techniques which are to be applied under paragraph (v).
- (v) Type-specific biological reference conditions based on modelling may be derived using either predictive models or hindcasting methods. The methods shall use historical, palaeological and other available data and shall provide a sufficient level of confidence about the values for the reference conditions to ensure that the conditions so derived are consistent and valid for each surface water body type.

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- (vi) Where it is not possible to establish reliable type-specific reference conditions for a quality element in a surface water body type due to high degrees of natural variability in that element, not just as a result of seasonal variations, then that element may be excluded from the assessment of ecological status for that surface water type. In such circumstances Member States shall state the reasons for this exclusion in the river basin management plan.

1.4. Identification of Pressures

Member States shall collect and maintain information on the type and magnitude of the significant anthropogenic pressures to which the surface water bodies in each river basin district are liable to be subject, in particular the following.

Estimation and identification of significant point source pollution, in particular by substances listed in Annex VIII, from urban, industrial, agricultural and other installations and activities, based, *inter alia*, on information gathered under:

- (i) Articles 15 and 17 of Directive 91/271/EEC;

- (ii) Articles 9 and 15 of Directive 96/61/EC ⁽¹⁾;

and for the purposes of the initial river basin management plan:

- (iii) Article 11 of Directive 76/464/EEC; and

- (iv) Directives 75/440/EC, 76/160/EEC ⁽²⁾, 78/659/EEC and 79/923/EEC ⁽³⁾.

Estimation and identification of significant diffuse source pollution, in particular by substances listed in Annex VIII, from urban, industrial, agricultural and other installations and activities; based, *inter alia*, on information gathered under:

- (i) Articles 3, 5 and 6 of Directive 91/676/EEC ⁽⁴⁾;

- (ii) Articles 7 and 17 of Directive 91/414/EEC;

- (iii) Directive 98/8/EC;

and for the purposes of the first river basin management plan:

- (iv) Directives 75/440/EEC, 76/160/EEC, 76/464/EEC, 78/659/EEC and 79/923/EEC.

Estimation and identification of significant water abstraction for urban, industrial, agricultural and other uses, including seasonal variations and total annual demand, and of loss of water in distribution systems.

Estimation and identification of the impact of significant water flow regulation, including water transfer and diversion, on overall flow characteristics and water balances.

Identification of significant morphological alterations to water bodies.

Estimation and identification of other significant anthropogenic impacts on the status of surface waters.

Estimation of land use patterns, including identification of the main urban, industrial and agricultural areas and, where relevant, fisheries and forests.

⁽¹⁾ OJ L 135, 30.5.1991, p. 40. Directive as last amended by Directive 98/15/EC (OJ L 67, 7.3.1998, p. 29).

⁽²⁾ OJ L 31, 5.2.1976, p. 1. Directive as last amended by the 1994 Act of Accession.

⁽³⁾ OJ L 281, 10.11.1979, p. 47. Directive as amended by Directive 91/692/EEC (OJ L 377, 31.12.1991, p. 48).

⁽⁴⁾ OJ L 375, 31.12.1991, p. 1.

▼B**1.5. Assessment of Impact**

Member States shall carry out an assessment of the susceptibility of the surface water status of bodies to the pressures identified above.

Member States shall use the information collected above, and any other relevant information including existing environmental monitoring data, to carry out an assessment of the likelihood that surface waters bodies within the river basin district will fail to meet the environmental quality objectives set for the bodies under Article 4. Member States may utilise modelling techniques to assist in such an assessment.

For those bodies identified as being at risk of failing the environmental quality objectives, further characterisation shall, where relevant, be carried out to optimise the design of both the monitoring programmes required under Article 8, and the programmes of measures required under Article 11.

2. GROUNDWATERS**2.1. Initial characterisation**

Member States shall carry out an initial characterisation of all groundwater bodies to assess their uses and the degree to which they are at risk of failing to meet the objectives for each groundwater body under Article 4. Member States may group groundwater bodies together for the purposes of this initial characterisation. This analysis may employ existing hydrological, geological, pedological, land use, discharge, abstraction and other data but shall identify:

- the location and boundaries of the groundwater body or bodies,
- the pressures to which the groundwater body or bodies are liable to be subject including:
 - diffuse sources of pollution
 - point sources of pollution
 - abstraction
 - artificial recharge,
- the general character of the overlying strata in the catchment area from which the groundwater body receives its recharge,
- those groundwater bodies for which there are directly dependent surface water ecosystems or terrestrial ecosystems.

2.2. Further characterisation

Following this initial characterisation, Member States shall carry out further characterisation of those groundwater bodies or groups of bodies which have been identified as being at risk in order to establish a more precise assessment of the significance of such risk and identification of any measures to be required under Article 11. Accordingly, this characterisation shall include relevant information on the impact of human activity and, where relevant, information on:

- geological characteristics of the groundwater body including the extent and type of geological units,
- hydrogeological characteristics of the groundwater body including hydraulic conductivity, porosity and confinement,
- characteristics of the superficial deposits and soils in the catchment from which the groundwater body receives its recharge, including the thickness, porosity, hydraulic conductivity, and absorptive properties of the deposits and soils,
- stratification characteristics of the groundwater within the groundwater body,

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- an inventory of associated surface systems, including terrestrial ecosystems and bodies of surface water, with which the groundwater body is dynamically linked,
- estimates of the directions and rates of exchange of water between the groundwater body and associated surface systems,
- sufficient data to calculate the long term annual average rate of overall recharge,
- characterisation of the chemical composition of the groundwater, including specification of the contributions from human activity. Member States may use typologies for groundwater characterisation when establishing natural background levels for these bodies of groundwater.

2.3. Review of the impact of human activity on groundwaters

For those bodies of groundwater which cross the boundary between two or more Member States or are identified following the initial characterisation undertaken in accordance with paragraph 2.1 as being at risk of failing to meet the objectives set for each body under Article 4, the following information shall, where relevant, be collected and maintained for each groundwater body:

- (a) the location of points in the groundwater body used for the abstraction of water with the exception of:
 - points for the abstraction of water providing less than an average of 10 m³ per day, or,
 - points for the abstraction of water intended for human consumption providing less than an average of 10 m³ per day or serving less than 50 persons,
- (b) the annual average rates of abstraction from such points,
- (c) the chemical composition of water abstracted from the groundwater body,
- (d) the location of points in the groundwater body into which water is directly discharged,
- (e) the rates of discharge at such points,
- (f) the chemical composition of discharges to the groundwater body, and
- (g) land use in the catchment or catchments from which the groundwater body receives its recharge, including pollutant inputs and anthropogenic alterations to the recharge characteristics such as rainwater and run-off diversion through land sealing, artificial recharge, damming or drainage.

2.4. Review of the impact of changes in groundwater levels

Member States shall also identify those bodies of groundwater for which lower objectives are to be specified under Article 4 including as a result of consideration of the effects of the status of the body on:

- (i) surface water and associated terrestrial ecosystems
- (ii) water regulation, flood protection and land drainage
- (iii) human development.

2.5. Review of the impact of pollution on groundwater quality

Member States shall identify those bodies of groundwater for which lower objectives are to be specified under Article 4(5) where, as a result of the impact of human activity, as determined in accordance with Article 5(1), the body of groundwater is so polluted that achieving good groundwater chemical status is infeasible or disproportionately expensive.

*ANNEX III***ECONOMIC ANALYSIS**

The economic analysis shall contain enough information in sufficient detail (taking account of the costs associated with collection of the relevant data) in order to:

- (a) make the relevant calculations necessary for taking into account under Article 9 the principle of recovery of the costs of water services, taking account of long term forecasts of supply and demand for water in the river basin district and, where necessary:
 - estimates of the volume, prices and costs associated with water services, and
 - estimates of relevant investment including forecasts of such investments;
- (b) make judgements about the most cost-effective combination of measures in respect of water uses to be included in the programme of measures under Article 11 based on estimates of the potential costs of such measures.

*ANNEX IV***PROTECTED AREAS**

1. The register of protected areas required under Article 6 shall include the following types of protected areas:
 - (i) areas designated for the abstraction of water intended for human consumption under Article 7;
 - (ii) areas designated for the protection of economically significant aquatic species;
 - (iii) bodies of water designated as recreational waters, including areas designated as bathing waters under Directive 76/160/EEC;
 - (iv) nutrient-sensitive areas, including areas designated as vulnerable zones under Directive 91/676/EEC and areas designated as sensitive areas under Directive 91/271/EEC; and
 - (v) areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection, including relevant Natura 2000 sites designated under Directive 92/43/EEC ⁽¹⁾ and Directive 79/409/EEC ⁽²⁾.
2. The summary of the register required as part of the river basin management plan shall include maps indicating the location of each protected area and a description of the Community, national or local legislation under which they have been designated.

⁽¹⁾ OJ L 206, 22.7.1992, p. 7. Directive as last amended by Directive 97/62/EC (OJ L 305, 8.11.1997, p. 42).

⁽²⁾ OJ L 103, 25.4.1979, p. 1. Directive as last amended by Directive 97/49/EC (OJ L 223, 13.8.1997, p. 9).

*ANNEX V*

1. SURFACE WATER STATUS
 - 1.1. **Quality elements for the classification of ecological status**
 - 1.1.1. Rivers
 - 1.1.2. Lakes
 - 1.1.3. Transitional waters
 - 1.1.4. Coastal waters
 - 1.1.5. Artificial and heavily modified surface water bodies
 - 1.2. **Normative definitions of ecological status classifications**
 - 1.2.1. Definitions for high, good and moderate ecological status in rivers
 - 1.2.2. Definitions for high, good and moderate ecological status in lakes
 - 1.2.3. Definitions for high, good and moderate ecological status in transitional waters
 - 1.2.4. Definitions for high, good and moderate ecological status in coastal waters
 - 1.2.5. Definitions for maximum, good and moderate ecological potential for heavily modified or artificial water bodies
 - 1.2.6. Procedure for the setting of chemical quality standards by Member States
 - 1.3. **Monitoring of ecological status and chemical status for surface waters**
 - 1.3.1. Design of surveillance monitoring
 - 1.3.2. Design of operational monitoring
 - 1.3.3. Design of investigative monitoring
 - 1.3.4. Frequency of monitoring
 - 1.3.5. Additional monitoring requirements for protected areas
 - 1.3.6. Standards for monitoring of quality elements
 - 1.4. **Classification and presentation of ecological status**
 - 1.4.1. Comparability of biological monitoring results
 - 1.4.2. Presentation of monitoring results and classification of ecological status and ecological potential
 - 1.4.3. Presentation of monitoring results and classification of chemical status
2. GROUNDWATER
 - 2.1. **Groundwater quantitative status**
 - 2.1.1. Parameter for the classification of quantitative status
 - 2.1.2. Definition of quantitative status
 - 2.2. **Monitoring of groundwater quantitative status**

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- 2.2.1. Groundwater level monitoring network
- 2.2.2. Density of monitoring sites
- 2.2.3. Monitoring frequency
- 2.2.4. Interpretation and presentation of groundwater quantitative status
- 2.3. **Groundwater chemical status**
 - 2.3.1. Parameters for the determination of groundwater chemical status
 - 2.3.2. Definition of good groundwater chemical status
- 2.4. **Monitoring of groundwater chemical status**
 - 2.4.1. Groundwater monitoring network
 - 2.4.2. Surveillance monitoring
 - 2.4.3. Operational monitoring
 - 2.4.4. Identification of trends in pollutants
 - 2.4.5. Interpretation and presentation of groundwater chemical status
- 2.5. **Presentation of groundwater status**
- 1. SURFACE WATER STATUS
 - 1.1. **Quality elements for the classification of ecological status**

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- 1.1.1. Rivers
 - Biological elements*
 - Composition and abundance of aquatic flora
 - Composition and abundance of benthic invertebrate fauna
 - Composition, abundance and age structure of fish fauna
 - Hydromorphological elements supporting the biological elements*
 - Hydrological regime
 - quantity and dynamics of water flow
 - connection to groundwater bodies
 - River continuity
 - Morphological conditions
 - river depth and width variation
 - structure and substrate of the river bed
 - structure of the riparian zone
 - General physico-chemical elements supporting the biological elements*
 - Thermal conditions
 - Oxygenation conditions
 - Salinity
 - Acidification status
 - Nutrient conditions

▼ M8**1.1.2. Lakes***Biological elements*

- Composition, abundance and biomass of phytoplankton
- Composition and abundance of other aquatic flora
- Composition and abundance of benthic invertebrate fauna
- Composition, abundance and age structure of fish fauna

Hydromorphological elements supporting the biological elements

Hydrological regime

- quantity and dynamics of water flow
- residence time
- connection to the groundwater body

Morphological conditions

- lake depth variation
- quantity, structure and substrate of the lake bed
- structure of the lake shore

General physico-chemical elements supporting the biological elements

Transparency

Thermal conditions

Oxygenation conditions

Salinity

Acidification status

Nutrient conditions

1.1.3. Transitional waters*Biological elements*

- Composition, abundance and biomass of phytoplankton
- Composition and abundance of other aquatic flora
- Composition and abundance of benthic invertebrate fauna
- Composition and abundance of fish fauna

Hydro-morphological elements supporting the biological elements

Morphological conditions

- depth variation
- quantity, structure and substrate of the bed
- structure of the intertidal zone

Tidal regime

- freshwater flow
- wave exposure

General physico-chemical elements supporting the biological elements

Transparency

Thermal conditions

Oxygenation conditions

Salinity

Nutrient conditions

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1.1.4. Coastal waters

Biological elements

Composition, abundance and biomass of phytoplankton

Composition and abundance of other aquatic flora

Composition and abundance of benthic invertebrate fauna

Hydromorphological elements supporting the biological elements

Morphological conditions

depth variation

structure and substrate of the coastal bed

structure of the intertidal zone

Tidal regime

direction of dominant currents

wave exposure

General physico-chemical elements supporting the biological elements

Transparency

Thermal conditions

Oxygenation conditions

Salinity

Nutrient conditions

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1.1.5. Artificial and heavily modified surface water bodies

The quality elements applicable to artificial and heavily modified surface water bodies shall be those applicable to whichever of the four natural surface water categories above most closely resembles the heavily modified or artificial water body concerned.

1.2. Normative definitions of ecological status classifications

Table 1.2. *General definition for rivers, lakes, transitional waters and coastal waters*

The following text provides a general definition of ecological quality. For the purposes of classification the values for the quality elements of ecological status for each surface water category are those given in tables 1.2.1 to 1.2.4 below.

Element	High status	Good status	Moderate status
General	There are no, or only very minor, anthropogenic alterations to the values of the physico-chemical and hydromorphological quality elements for the surface water body type from those normally associated with that type under undisturbed conditions. The values of the biological quality elements for the surface water body reflect those normally associated with that type under undisturbed conditions, and show no, or only very minor, evidence of distortion. These are the type-specific conditions and communities.	The values of the biological quality elements for the surface water body type show low levels of distortion resulting from human activity, but deviate only slightly from those normally associated with the surface water body type under undisturbed conditions.	The values of the biological quality elements for the surface water body type deviate moderately from those normally associated with the surface water body type under undisturbed conditions. The values show moderate signs of distortion resulting from human activity and are significantly more disturbed than under conditions of good status.

Waters achieving a status below moderate shall be classified as poor or bad.

Waters showing evidence of major alterations to the values of the biological quality elements for the surface water body type and in which the relevant biological communities deviate substantially from those normally associated with the surface water body type under undisturbed conditions, shall be classified as poor.

Waters showing evidence of severe alterations to the values of the biological quality elements for the surface water body type and in which large portions of the relevant biological communities normally associated with the surface water body type under undisturbed conditions are absent, shall be classified as bad.

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1.2.1. Definitions for high, good and moderate ecological status in rivers

Biological quality elements

Element	High status	Good status	Moderate status
Phytoplankton	The taxonomic composition of phytoplankton corresponds totally or nearly totally to undisturbed conditions. The average phytoplankton abundance is wholly consistent with the type-specific physico-chemical conditions and is not such as to significantly alter the type-specific transparency conditions. Planktonic blooms occur at a frequency and intensity which is consistent with the type-specific physico-chemical conditions.	There are slight changes in the composition and abundance of planktonic taxa compared to the type-specific communities. Such changes do not indicate any accelerated growth of algae resulting in undesirable disturbances to the balance of organisms present in the water body or to the physico-chemical quality of the water or sediment. A slight increase in the frequency and intensity of the type-specific planktonic blooms may occur.	The composition of planktonic taxa differs moderately from the type-specific communities. Abundance is moderately disturbed and may be such as to produce a significant undesirable disturbance in the values of other biological and physico-chemical quality elements. A moderate increase in the frequency and intensity of planktonic blooms may occur. Persistent blooms may occur during summer months.
Macrophytes and phytobenthos	The taxonomic composition corresponds totally or nearly totally to undisturbed conditions. There are no detectable changes in the average macrophytic and the average phytobenthic abundance.	There are slight changes in the composition and abundance of macrophytic and phytobenthic taxa compared to the type-specific communities. Such changes do not indicate any accelerated growth of phytobenthos or higher forms of plant life resulting in undesirable disturbances to the balance of organisms present in the water body or to the physico-chemical quality of the water or sediment. The phytobenthic community is not adversely affected by bacterial tufts and coats present due to anthropogenic activity.	The composition of macrophytic and phytobenthic taxa differs moderately from the type-specific community and is significantly more distorted than at good status. Moderate changes in the average macrophytic and the average phytobenthic abundance are evident. The phytobenthic community may be interfered with and, in some areas, displaced by bacterial tufts and coats present as a result of anthropogenic activities.

Element	High status	Good status	Moderate status
Benthic invertebrate fauna	The taxonomic composition and abundance correspond totally or nearly totally to undisturbed conditions. The ratio of disturbance sensitive taxa to insensitive taxa shows no signs of alteration from undisturbed levels. The level of diversity of invertebrate taxa shows no sign of alteration from undisturbed levels.	There are slight changes in the composition and abundance of invertebrate taxa from the type-specific communities. The ratio of disturbance-sensitive taxa to insensitive taxa shows slight alteration from type-specific levels. The level of diversity of invertebrate taxa shows slight signs of alteration from type-specific levels.	The composition and abundance of invertebrate taxa differ moderately from the type-specific communities. Major taxonomic groups of the type-specific community are absent. The ratio of disturbance-sensitive taxa to insensitive taxa, and the level of diversity, are substantially lower than the type-specific level and significantly lower than for good status.
Fish fauna	Species composition and abundance correspond totally or nearly totally to undisturbed conditions. All the type-specific disturbance-sensitive species are present. The age structures of the fish communities show little sign of anthropogenic disturbance and are not indicative of a failure in the reproduction or development of any particular species.	There are slight changes in species composition and abundance from the type-specific communities attributable to anthropogenic impacts on physico-chemical and hydromorphological quality elements. The age structures of the fish communities show signs of disturbance attributable to anthropogenic impacts on physico-chemical or hydromorphological quality elements, and, in a few instances, are indicative of a failure in the reproduction or development of a particular species, to the extent that some age classes may be missing.	The composition and abundance of fish species differ moderately from the type-specific communities attributable to anthropogenic impacts on physico-chemical or hydromorphological quality elements. The age structure of the fish communities shows major signs of anthropogenic disturbance, to the extent that a moderate proportion of the type specific species are absent or of very low abundance.

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Hydromorphological quality elements

Element	High status	Good status	Moderate status
Hydrological regime	The quantity and dynamics of flow, and the resultant connection to groundwaters, reflect totally, or nearly totally, undisturbed conditions.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.
River continuity	The continuity of the river is not disturbed by anthropogenic activities and allows undisturbed migration of aquatic organisms and sediment transport.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.
Morphological conditions	Channel patterns, width and depth variations, flow velocities, substrate conditions and both the structure and condition of the riparian zones correspond totally or nearly totally to undisturbed conditions.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.

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General physico-chemical quality elements

Element	High status	Good status	Moderate status
General conditions	The values of the general physico-chemical elements correspond totally or nearly totally to undisturbed conditions. Nutrient concentrations remain within the range normally associated with undisturbed conditions. Levels of salinity, pH, oxygen balance, acid neutralising capacity and temperature do not show signs of anthropogenic disturbance and remain within the ranges normally associated with undisturbed conditions.	Temperature, oxygen balance, pH, acid neutralising capacity and salinity do not reach levels outside the ranges established so as to ensure the functioning of the type specific ecosystem and the achievement of the values specified above for the biological quality elements. Nutrient concentrations do not exceed the levels established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.

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1.2.2. Definitions for high, good and moderate ecological status in lakes

Biological quality elements

Element	High status	Good status	Moderate status
Phytoplankton	The taxonomic composition and abundance of phytoplankton correspond totally or nearly totally to undisturbed conditions. The average phytoplankton biomass is consistent with the type-specific physico-chemical conditions and is not such as to significantly alter the type-specific transparency conditions. Planktonic blooms occur at a frequency and intensity which is consistent with the type specific physico-chemical conditions.	There are slight changes in the composition and abundance of planktonic taxa compared to the type-specific communities. Such changes do not indicate any accelerated growth of algae resulting in undesirable disturbance to the balance of organisms present in the water body or to the physico-chemical quality of the water or sediment. A slight increase in the frequency and intensity of the type specific planktonic blooms may occur.	The composition and abundance of planktonic taxa differ moderately from the type-specific communities. Biomass is moderately disturbed and may be such as to produce a significant undesirable disturbance in the condition of other biological quality elements and the physico-chemical quality of the water or sediment. A moderate increase in the frequency and intensity of planktonic blooms may occur. Persistent blooms may occur during summer months.
Macrophytes and phytobenthos	The taxonomic composition corresponds totally or nearly totally to undisturbed conditions. There are no detectable changes in the average macrophytic and the average phytobenthic abundance.	There are slight changes in the composition and abundance of macrophytic and phytobenthic taxa compared to the type-specific communities. Such changes do not indicate any accelerated growth of phytobenthos or higher forms of plant life resulting in undesirable disturbance to the balance of organisms present in the water body or to the physico-chemical quality of the water. The phytobenthic community is not adversely affected by bacterial tufts and coats present due to anthropogenic activity.	The composition of macrophytic and phytobenthic taxa differ moderately from the type-specific communities and are significantly more distorted than those observed at good quality. Moderate changes in the average macrophytic and the average phytobenthic abundance are evident. The phytobenthic community may be interfered with, and, in some areas, displaced by bacterial tufts and coats present as a result of anthropogenic activities.

Element	High status	Good status	Moderate status
Benthic invertebrate fauna	The taxonomic composition and abundance correspond totally or nearly totally to the undisturbed conditions. The ratio of disturbance sensitive taxa to insensitive taxa shows no signs of alteration from undisturbed levels. The level of diversity of invertebrate taxa shows no sign of alteration from undisturbed levels.	There are slight changes in the composition and abundance of invertebrate taxa compared to the type-specific communities. The ratio of disturbance sensitive taxa to insensitive taxa shows slight signs of alteration from type-specific levels. The level of diversity of invertebrate taxa shows slight signs of alteration from type-specific levels.	The composition and abundance of invertebrate taxa differ moderately from the type-specific conditions. Major taxonomic groups of the type-specific community are absent. The ratio of disturbance sensitive to insensitive taxa, and the level of diversity, are substantially lower than the type-specific level and significantly lower than for good status.
Fish fauna	Species composition and abundance correspond totally or nearly totally to undisturbed conditions. All the type-specific sensitive species are present. The age structures of the fish communities show little sign of anthropogenic disturbance and are not indicative of a failure in the reproduction or development of a particular species.	There are slight changes in species composition and abundance from the type-specific communities attributable to anthropogenic impacts on physico-chemical or hydromorphological quality elements. The age structures of the fish communities show signs of disturbance attributable to anthropogenic impacts on physico-chemical or hydromorphological quality elements, and, in a few instances, are indicative of a failure in the reproduction or development of a particular species, to the extent that some age classes may be missing.	The composition and abundance of fish species differ moderately from the type-specific communities attributable to anthropogenic impacts on physico-chemical or hydromorphological quality elements. The age structure of the fish communities shows major signs of disturbance, attributable to anthropogenic impacts on physico-chemical or hydromorphological quality elements, to the extent that a moderate proportion of the type specific species are absent or of very low abundance.

▼ **B***Hydromorphological quality elements*

Element	High status	Good status	Moderate status
Hydrological regime	The quantity and dynamics of flow, level, residence time, and the resultant connection to groundwaters, reflect totally or nearly totally undisturbed conditions.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.
Morphological conditions	Lake depth variation, quantity and structure of the substrate, and both the structure and condition of the lake shore zone correspond totally or nearly totally to undisturbed conditions.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.

▼ **M8***General physico-chemical quality elements*

Element	High status	Good status	Moderate status
General conditions	The values of the general physico-chemical elements correspond totally or nearly totally to undisturbed conditions. Nutrient concentrations remain within the range normally associated with undisturbed conditions. Levels of salinity, pH, oxygen balance, acid neutralising capacity, transparency and temperature do not show signs of anthropogenic disturbance and remain within the ranges normally associated with undisturbed conditions.	Temperature, oxygen balance, pH, acid neutralising capacity, transparency and salinity do not reach levels outside the ranges established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements. Nutrient concentrations do not exceed the levels established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.

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1.2.3. Definitions for high, good and moderate ecological status in transitional waters

Biological quality elements

Element	High status	Good status	Moderate status
Phytoplankton	The composition and abundance of the phytoplanktonic taxa are consistent with undisturbed conditions. The average phytoplankton biomass is consistent with the type-specific physico-chemical conditions and is not such as to significantly alter the type-specific transparency conditions. Planktonic blooms occur at a frequency and intensity which is consistent with the type specific physico-chemical conditions.	There are slight changes in the composition and abundance of phytoplanktonic taxa. There are slight changes in biomass compared to the type-specific conditions. Such changes do not indicate any accelerated growth of algae resulting in undesirable disturbance to the balance of organisms present in the water body or to the physico-chemical quality of the water. A slight increase in the frequency and intensity of the type specific planktonic blooms may occur.	The composition and abundance of phytoplanktonic taxa differ moderately from type-specific conditions. Biomass is moderately disturbed and may be such as to produce a significant undesirable disturbance in the condition of other biological quality elements. A moderate increase in the frequency and intensity of planktonic blooms may occur. Persistent blooms may occur during summer months.
Macroalgae	The composition of macroalgal taxa is consistent with undisturbed conditions. There are no detectable changes in macroalgal cover due to anthropogenic activities.	There are slight changes in the composition and abundance of macroalgal taxa compared to the type-specific communities. Such changes do not indicate any accelerated growth of phytobenthos or higher forms of plant life resulting in undesirable disturbance to the balance of organisms present in the water body or to the physico-chemical quality of the water.	The composition of macroalgal taxa differs moderately from type-specific conditions and is significantly more distorted than at good quality. Moderate changes in the average macroalgal abundance are evident and may be such as to result in an undesirable disturbance to the balance of organisms present in the water body.
Angiosperms	The taxonomic composition corresponds totally or nearly totally to undisturbed conditions. There are no detectable changes in angiosperm abundance due to anthropogenic activities.	There are slight changes in the composition of angiosperm taxa compared to the type-specific communities. Angiosperm abundance shows slight signs of disturbance.	The composition of the angiosperm taxa differs moderately from the type-specific communities and is significantly more distorted than at good quality. There are moderate distortions in the abundance of angiosperm taxa.

Element	High status	Good status	Moderate status
Benthic invertebrate fauna	The level of diversity and abundance of invertebrate taxa is within the range normally associated with undisturbed conditions. All the disturbance-sensitive taxa associated with undisturbed conditions are present.	The level of diversity and abundance of invertebrate taxa is slightly outside the range associated with the type-specific conditions. Most of the sensitive taxa of the type-specific communities are present.	The level of diversity and abundance of invertebrate taxa is moderately outside the range associated with the type-specific conditions. Taxa indicative of pollution are present. Many of the sensitive taxa of the type-specific communities are absent.
Fish fauna	Species composition and abundance is consistent with undisturbed conditions.	The abundance of the disturbance-sensitive species shows slight signs of distortion from type-specific conditions attributable to anthropogenic impacts on physico-chemical or hydromorphological quality elements.	A moderate proportion of the type-specific disturbance-sensitive species are absent as a result of anthropogenic impacts on physico-chemical or hydromorphological quality elements.

Hydromorphological quality elements

Element	High status	Good status	Moderate status
Tidal regime	The freshwater flow regime corresponds totally or nearly totally to undisturbed conditions.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.
Morphological conditions	Depth variations, substrate conditions, and both the structure and condition of the intertidal zones correspond totally or nearly totally to undisturbed conditions.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.

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General physico-chemical quality elements

Element	High status	Good status	Moderate status
General conditions	The general physico-chemical elements correspond totally or nearly totally to undisturbed conditions. Nutrient concentrations remain within the range normally associated with undisturbed conditions. Temperature, oxygen balance and transparency do not show signs of anthropogenic disturbance and remain within the ranges normally associated with undisturbed conditions.	Temperature, oxygenation conditions and transparency do not reach levels outside the ranges established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements. Nutrient concentrations do not exceed the levels established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.

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1.2.4. Definitions for high, good and moderate ecological status in coastal waters

Biological quality elements

Element	High status	Good status	Moderate status
Phytoplankton	The composition and abundance of phytoplanktonic taxa are consistent with undisturbed conditions. The average phytoplankton biomass is consistent with the type-specific physico-chemical conditions and is not such as to significantly alter the type-specific transparency conditions. Planktonic blooms occur at a frequency and intensity which is consistent with the type specific physico-chemical conditions.	The composition and abundance of phytoplanktonic taxa show slight signs of disturbance. There are slight changes in biomass compared to type-specific conditions. Such changes do not indicate any accelerated growth of algae resulting in undesirable disturbance to the balance of organisms present in the water body or to the quality of the water. A slight increase in the frequency and intensity of the type-specific planktonic blooms may occur.	The composition and abundance of planktonic taxa show signs of moderate disturbance. Algal biomass is substantially outside the range associated with type-specific conditions, and is such as to impact upon other biological quality elements. A moderate increase in the frequency and intensity of planktonic blooms may occur. Persistent blooms may occur during summer months.
Macroalgae and angiosperms	All disturbance-sensitive macroalgal and angiosperm taxa associated with undisturbed conditions are present. The levels of macroalgal cover and angiosperm abundance are consistent with undisturbed conditions.	Most disturbance-sensitive macroalgal and angiosperm taxa associated with undisturbed conditions are present. The level of macroalgal cover and angiosperm abundance show slight signs of disturbance.	A moderate number of the disturbance-sensitive macroalgal and angiosperm taxa associated with undisturbed conditions are absent. Macroalgal cover and angiosperm abundance is moderately disturbed and may be such as to result in an undesirable disturbance to the balance of organisms present in the water body.
Benthic invertebrate fauna	The level of diversity and abundance of invertebrate taxa is within the range normally associated with undisturbed conditions. All the disturbance-sensitive taxa associated with undisturbed conditions are present.	The level of diversity and abundance of invertebrate taxa is slightly outside the range associated with the type-specific conditions. Most of the sensitive taxa of the type-specific communities are present.	The level of diversity and abundance of invertebrate taxa is moderately outside the range associated with the type-specific conditions. Taxa indicative of pollution are present. Many of the sensitive taxa of the type-specific communities are absent.

▼ **B***Hydromorphological quality elements*

Element	High status	Good status	Moderate status
Tidal regime	The freshwater flow regime and the direction and speed of dominant currents correspond totally or nearly totally to undisturbed conditions.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.
Morphological conditions	The depth variation, structure and substrate of the coastal bed, and both the structure and condition of the inter-tidal zones correspond totally or nearly totally to the undisturbed conditions.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.

▼ **M8***General physico-chemical quality elements*

Element	High status	Good status	Moderate status
General conditions	The general physico-chemical elements correspond totally or nearly totally to undisturbed conditions. Nutrient concentrations remain within the range normally associated with undisturbed conditions. Temperature, oxygen balance and transparency do not show signs of anthropogenic disturbance and remain within the ranges normally associated with undisturbed conditions.	Temperature, oxygenation conditions and transparency do not reach levels outside the ranges established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements. Nutrient concentrations do not exceed the levels established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.

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1.2.5. Definitions for maximum, good and moderate ecological potential for heavily modified or artificial water bodies

Element	Maximum ecological potential	Good ecological potential	Moderate ecological potential
Biological quality elements	The values of the relevant biological quality elements reflect, as far as possible, those associated with the closest comparable surface water body type, given the physical conditions which result from the artificial or heavily modified characteristics of the water body.	There are slight changes in the values of the relevant biological quality elements as compared to the values found at maximum ecological potential.	There are moderate changes in the values of the relevant biological quality elements as compared to the values found at maximum ecological potential. These values are significantly more distorted than those found under good quality.
Hydromorphological elements	The hydromorphological conditions are consistent with the only impacts on the surface water body being those resulting from the artificial or heavily modified characteristics of the water body once all mitigation measures have been taken to ensure the best approximation to ecological continuum, in particular with respect to migration of fauna and appropriate spawning and breeding grounds.	Conditions consistent with the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.
Physico-chemical elements			
General conditions	Physico-chemical elements correspond totally or nearly totally to the undisturbed conditions associated with the surface water body type most closely comparable to the artificial or heavily modified body concerned. Nutrient concentrations remain within the range normally associated with such undisturbed conditions. The levels of temperature, oxygen balance and pH are consistent with the those found in the most closely comparable surface water body types under undisturbed conditions.	The values for physico-chemical elements are within the ranges established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements. Temperature and pH do not reach levels outside the ranges established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements. Nutrient concentrations do not exceed the levels established so as to ensure the functioning of the ecosystem and the achievement of the values specified above for the biological quality elements.	Conditions consistent with the achievement of the values specified above for the biological quality elements.

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Element	Maximum ecological potential	Good ecological potential	Moderate ecological potential
► <u>M8</u> ————— ◀	Concentrations close to zero and at least below the limits of detection of the most advanced analytical techniques in general use.	Concentrations not in excess of the standards set in accordance with the procedure detailed in section 1.2.6 without prejudice to Directive 91/414/EC and Directive 98/8/EC. (< EQS)	Conditions consistent with the achievement of the values specified above for the biological quality elements.
► <u>M8</u> ————— ◀	Concentrations remain within the range normally associated with the undisturbed conditions found in the surface water body type most closely comparable to the artificial or heavily modified body concerned (background levels = bgl).	Concentrations not in excess of the standards set in accordance with the procedure detailed in section 1.2.6 without prejudice to Directive 91/414/EC and Directive 98/8/EC. (< EQS)	Conditions consistent with the achievement of the values specified above for the biological quality elements.

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▼M8**▼B****1.3. Monitoring of ecological status and chemical status for surface waters**

The surface water monitoring network shall be established in accordance with the requirements of Article 8. The monitoring network shall be designed so as to provide a coherent and comprehensive overview of ecological and chemical status within each river basin and shall permit classification of water bodies into five classes consistent with the normative definitions in section 1.2. Member States shall provide a map or maps showing the surface water monitoring network in the river basin management plan.

On the basis of the characterisation and impact assessment carried out in accordance with Article 5 and Annex II, Member States shall for each period to which a river basin management plan applies, establish a surveillance monitoring programme and an operational monitoring programme. Member States may also need in some cases to establish programmes of investigative monitoring.

Member States shall monitor parameters which are indicative of the status of each relevant quality element. In selecting parameters for biological quality elements Member States shall identify the appropriate taxonomic level required to achieve adequate confidence and precision in the classification of the quality elements. Estimates of the level of confidence and precision of the results provided by the monitoring programmes shall be given in the plan.

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Where the monitoring network involves earth observation and remote sensing rather than local sampling points, or other innovative techniques, the map of the monitoring network shall include information on the quality elements and the water bodies or groups of water bodies which have been monitored using such monitoring methods. Reference shall be made to CEN, ISO, or other international or national standards that have been applied to ensure that the temporal and spatial data obtained are as reliable as those obtained through the use of conventional monitoring methods at local sampling and measuring points.

Member States may apply passive sampling methods to monitor chemical pollutants, where appropriate, in particular for screening purposes and for long term assessment, on the condition that those sampling methods do not underestimate the concentrations of pollutants for which environmental quality standards apply, and thus reliably identify ‘failure to achieve good status’, and that chemical analysis of water, biota or sediment samples, according to the environmental quality standards applied, is conducted wherever such failure is observed. Member States may also apply effect-based monitoring methods subject to the same conditions.

▼B**1.3.1. Design of surveillance monitoring****Objective**

Member States shall establish surveillance monitoring programmes to provide information for:

- supplementing and validating the impact assessment procedure detailed in Annex II,
- the efficient and effective design of future monitoring programmes,
- the assessment of long-term changes in natural conditions, and

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- the assessment of long-term changes resulting from widespread anthropogenic activity.

The results of such monitoring shall be reviewed and used, in combination with the impact assessment procedure described in Annex II, to determine requirements for monitoring programmes in the current and subsequent river basin management plans.

Selection of monitoring points

Surveillance monitoring shall be carried out of sufficient surface water bodies to provide an assessment of the overall surface water status within each catchment or subcatchments within the river basin district. In selecting these bodies Member States shall ensure that, where appropriate, monitoring is carried out at points where:

- the rate of water flow is significant within the river basin district as a whole; including points on large rivers where the catchment area is greater than 2 500 km²,
- the volume of water present is significant within the river basin district, including large lakes and reservoirs,
- significant bodies of water cross a Member State boundary,
- sites are identified under the Information Exchange Decision 77/795/EEC, and

at such other sites as are required to estimate the pollutant load which is transferred across Member State boundaries, and which is transferred into the marine environment.

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Selection of quality elements

Surveillance monitoring shall be carried out for each monitoring site for a period of one year during the period covered by a river basin management plan. The surveillance monitoring shall cover the following:

- parameters indicative of all biological quality elements;
- parameters indicative of all hydromorphological quality elements;
- parameters indicative of all general physico-chemical quality elements;
- priority substances which are discharged or otherwise deposited into the river basin or sub-basin;
- river basin specific pollutants.

However, where the previous surveillance monitoring exercise showed that the body concerned reached good status and there is no evidence from the review of impact of human activity referred to in Annex II that the impacts on the body have changed, the surveillance monitoring shall be carried out once during the period covered by three consecutive river basin management plans.

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1.3.2. Design of operational monitoring

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Operational monitoring shall be carried out for all those bodies of water which on the basis of either the impact assessment carried out in accordance with Annex II or surveillance monitoring are identified as being at risk of failing to meet their environmental objectives under Article 4 and for those bodies of water into which priority substances are discharged or otherwise deposited or into which river basin specific pollutants are discharged or otherwise deposited in significant quantities. Monitoring points shall be selected for priority substances as specified in the legislation laying down the relevant environmental quality standard. In all other cases, including for priority substances where no specific guidance is given in such legislation, monitoring points shall be selected as follows:

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- establish the status of those bodies identified as being at risk of failing to meet their environmental objectives, and
- assess any changes in the status of such bodies resulting from the programmes of measures.

The programme may be amended during the period of the river basin management plan in the light of information obtained as part of the requirements of Annex II or as part of this Annex, in particular to allow a reduction in frequency where an impact is found not to be significant or the relevant pressure is removed.

Selection of monitoring sites

Operational monitoring shall be carried out for all those bodies of water which on the basis of either the impact assessment carried out in accordance with Annex II or surveillance monitoring are identified as being at risk of failing to meet their environmental objectives under Article 4 and for those bodies of water into which priority list substances are discharged. Monitoring points shall be selected for priority list substances as specified in the legislation laying down the relevant environmental quality standard. In all other cases, including for priority list substances where no specific guidance is given in such legislation, monitoring points shall be selected as follows:

- for bodies at risk from significant point source pressures, sufficient monitoring points within each body in order to assess the magnitude and impact of the point source. Where a body is subject to a number of point source pressures monitoring points may be selected to assess the magnitude and impact of these pressures as a whole,
- for bodies at risk from significant diffuse source pressures, sufficient monitoring points within a selection of the bodies in order to assess the magnitude and impact of the diffuse source pressures. The selection of bodies shall be made such that they are representative of the relative risks of the occurrence of the diffuse source pressures, and of the relative risks of the failure to achieve good surface water status,
- for bodies at risk from significant hydromorphological pressure, sufficient monitoring points within a selection of the bodies in order to assess the magnitude and impact of the hydromorphological pressures. The selection of bodies shall be indicative of the overall impact of the hydromorphological pressure to which all the bodies are subject.

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Selection of quality elements

In order to assess the magnitude of the pressure to which bodies of surface water are subject Member States shall monitor for those quality elements which are indicative of the pressures to which the body or bodies are subject. In order to assess the impact of these pressures, Member States shall monitor as relevant:

- parameters indicative of the biological quality element, or elements, most sensitive to the pressures to which the water bodies are subject,

▼M8

- all priority substances discharged or otherwise deposited into water bodies and all river basin specific pollutants discharged or otherwise deposited into water bodies in significant quantities.

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- parameters indicative of the hydromorphological quality element most sensitive to the pressure identified.

1.3.3. Design of investigative monitoring

Objective

Investigative monitoring shall be carried out:

- where the reason for any exceedances is unknown,
- where surveillance monitoring indicates that the objectives set out in Article 4 for a body of water are not likely to be achieved and operational monitoring has not already been established, in order to ascertain the causes of a water body or water bodies failing to achieve the environmental objectives, or
- to ascertain the magnitude and impacts of accidental pollution,

and shall inform the establishment of a programme of measures for the achievement of the environmental objectives and specific measures necessary to remedy the effects of accidental pollution.

1.3.4. Frequency of monitoring

For the surveillance monitoring period, the frequencies for monitoring parameters indicative of physico-chemical quality elements given below should be applied unless greater intervals would be justified on the basis of technical knowledge and expert judgement. For biological or hydromorphological quality elements monitoring shall be carried out at least once during the surveillance monitoring period.

For operational monitoring, the frequency of monitoring required for any parameter shall be determined by Member States so as to provide sufficient data for a reliable assessment of the status of the relevant quality element. As a guideline, monitoring should take place at intervals not exceeding those shown in the table below unless greater intervals would be justified on the basis of technical knowledge and expert judgement.

Frequencies shall be chosen so as to achieve an acceptable level of confidence and precision. Estimates of the confidence and precision attained by the monitoring system used shall be stated in the river basin management plan.

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Monitoring frequencies shall be adjusted, if necessary, to take account of the variability in parameters resulting from variation in both anthropogenic and natural conditions.

The times at which monitoring is undertaken shall be selected so as to take account of the impact of seasonal variations in substance use or water levels on the monitoring results, and thus ensure that the results effectively reflect any changes in the water body caused by anthropogenic pressure and by climatic variation. As regards priority substances whose concentration is likely to peak over short periods as a result of seasonal fluctuations in their use, monitoring shall, during those peak periods, be carried out at intervals shorter than for other substances, where necessary, to ensure that adequate information is obtained on the concentration of those substances.

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Quality element	Rivers	Lakes	Transitional	Coastal
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Biological

Phytoplankton	6 months	6 months	6 months	6 months
Other aquatic flora	3 years	3 years	3 years	3 years
Macro invertebrates	3 years	3 years	3 years	3 years
Fish	3 years	3 years	3 years	

Hydromorphological

Continuity	6 years			
Hydrology	continuous	1 month		
Morphology	6 years	6 years	6 years	6 years

Physico-chemical

Thermal conditions	3 months	3 months	3 months	3 months
Oxygenation	3 months	3 months	3 months	3 months
Salinity	3 months	3 months	3 months	
Nutrient status	3 months	3 months	3 months	3 months
Acidification status	3 months	3 months		
►M8 River basin specific pollutants ◄	3 months	3 months	3 months	3 months
Priority substances	1 month	1 month	1 month	1 month

▼B**1.3.5. Additional monitoring requirements for protected areas**

The monitoring programmes required above shall be supplemented in order to fulfil the following requirements:

Drinking water abstraction points

Bodies of surface water designated in Article 7 which provide more than 100 m³ a day as an average shall be designated as monitoring sites and shall be subject to such additional monitoring as may be necessary to meet the requirements of that Article. Such bodies shall be monitored for all priority substances discharged and all other substances discharged in significant quantities which could affect the status of the body of water and which are controlled under the provisions of the Drinking Water Directive. Monitoring shall be carried out in accordance with the frequencies set out below:

Community served	Frequency
< 10 000	4 per year
10 000 to 30 000	8 per year
> 30 000	12 per year.

Habitat and species protection areas

Bodies of water forming these areas shall be included within the operational monitoring programme referred to above where, on the basis of the impact assessment and the surveillance monitoring, they are identified as being at risk of failing to meet their environmental objectives under Article 4. Monitoring shall be carried out to assess the magnitude and impact of all relevant significant pressures on these bodies and, where necessary, to assess changes in the status of such bodies resulting from the programmes of measures. Monitoring shall continue until the areas satisfy the water-related requirements of the legislation under which they are designated and meet their objectives under Article 4.

▼M7**1.3.6. Standards for monitoring of quality elements**

Methods used for the monitoring of type parameters shall conform to the international standards listed below in so far as they cover monitoring, or to such other national or international standards which will ensure the provision of data of an equivalent scientific quality and comparability.

Standards for sampling of biological quality elements

Generic methods for use with the specific methods given in the standards relating to the following biological quality elements:

▼ **M7**

EN ISO 5667-3:2012	Water quality — Sampling — Part 3: Preservation and handling of samples
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Standards for phytoplankton

EN 15204:2006	Water quality — Guidance standard on the enumeration of phytoplankton using inverted microscopy (Utermöhl technique)
EN 15972:2011	Water quality — Guidance on quantitative and qualitative investigations of marine phytoplankton
ISO 10260:1992	Water quality — Measurement of biochemical parameters — Spectrometric determination of the chlorophyll-a concentration

Standards for macrophyte and phytobenthos

EN 15460:2007	Water quality — Guidance standard for the surveying of macrophytes in lakes
EN 14184:2014	Water quality — Guidance for the surveying of aquatic macrophytes in running waters
EN 15708:2009	Water quality — Guidance standard for the surveying, sampling and laboratory analysis of phytobenthos in shallow running water
EN 13946:2014	Water quality — Guidance for the routine sampling and preparation of benthic diatoms from rivers and lakes
EN 14407:2014	Water quality — Guidance for the identification and enumeration of benthic diatom samples from rivers and lakes

Standards for benthic invertebrate

EN ISO 10870:2012	Water quality — Guidelines for the selection of sampling methods and devices for benthic macroinvertebrates in fresh waters
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▼ **M7**

EN 15196:2006	Water quality — Guidance on sampling and processing of the pupal exuviae of Chironomidae (order Diptera) for ecological assessment
EN 16150:2012	Water quality — Guidance on pro rata multi-habitat sampling of benthic macro-invertebrates from wadeable rivers
EN ISO 19493:2007	Water quality — Guidance on marine biological surveys of hard-substrate communities
EN ISO 16665:2013	Water quality — Guidelines for quantitative sampling and sample processing of marine soft-bottom macro-fauna

Standards for fish

EN 14962:2006	Water quality — Guidance on the scope and selection of fish sampling methods
EN 14011:2003	Water quality — Sampling of fish with electricity
EN 15910:2014	Water quality — Guidance on the estimation of fish abundance with mobile hydroacoustic methods
EN 14757:2005	Water quality — Sampling of fish with multi-mesh gillnets

Standards for hydromorphological parameters

EN 14614:2004	Water quality — Guidance standard for assessing the hydromorphological features of rivers
EN 16039:2011	Water quality — Guidance standard on assessing the hydromorphological features of lakes

Standards for physico-chemical parameters

Any relevant CEN/ISO standards

▼ **B**1.4. **Classification and presentation of ecological status**1.4.1. **Comparability of biological monitoring results**

- (i) Member States shall establish monitoring systems for the purpose of estimating the values of the biological quality elements

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specified for each surface water category or for heavily modified and artificial bodies of surface water. In applying the procedure set out below to heavily modified or artificial water bodies, references to ecological status should be construed as references to ecological potential. Such systems may utilise particular species or groups of species which are representative of the quality element as a whole.

- (ii) In order to ensure comparability of such monitoring systems, the results of the systems operated by each Member State shall be expressed as ecological quality ratios for the purposes of classification of ecological status. These ratios shall represent the relationship between the values of the biological parameters observed for a given body of surface water and the values for these parameters in the reference conditions applicable to that body. The ratio shall be expressed as a numerical value between zero and one, with high ecological status represented by values close to one and bad ecological status by values close to zero.
- (iii) Each Member State shall divide the ecological quality ratio scale for their monitoring system for each surface water category into five classes ranging from high to bad ecological status, as defined in Section 1.2, by assigning a numerical value to each of the boundaries between the classes. The value for the boundary between the classes of high and good status, and the value for the boundary between good and moderate status shall be established through the intercalibration exercise described below.
- (iv) The Commission shall facilitate this intercalibration exercise in order to ensure that these class boundaries are established consistent with the normative definitions in Section 1.2 and are comparable between Member States.
- (v) As part of this exercise the Commission shall facilitate an exchange of information between Member States leading to the identification of a range of sites in each ecoregion in the Community; these sites will form an intercalibration network. The network shall consist of sites selected from a range of surface water body types present within each ecoregion. For each surface water body type selected, the network shall consist of at least two sites corresponding to the boundary between the normative definitions of high and good status, and at least two sites corresponding to the boundary between the normative definitions of good and moderate status. The sites shall be selected by expert judgement based on joint inspections and all other available information.
- (vi) Each Member State monitoring system shall be applied to those sites in the intercalibration network which are both in the ecoregion and of a surface water body type to which the system will be applied pursuant to the requirements of this Directive. The results of this application shall be used to set the numerical values for the relevant class boundaries in each Member State monitoring system.

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- (vii) The Commission shall prepare a draft register of sites to form the intercalibration network. ► **M8** ◀

▼ M8

- (ix) The results of the intercalibration exercise and the values established for the Member State monitoring system classifications in accordance with points (i) to (viii) shall be published within six months of the adoption of the implementing act in accordance with Article 21.

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1.4.2. Presentation of monitoring results and classification of ecological status and ecological potential

- (i) For surface water categories, the ecological status classification for the body of water shall be represented by the lower of the values for the biological and physico-chemical monitoring results for the relevant quality elements classified in accordance with the first column of the table set out below. Member States shall provide a map for each river basin district illustrating the classification of the ecological status for each body of water, colour-coded in accordance with the second column of the table set out below to reflect the ecological status classification of the body of water:

Ecological status classification	Colour code
High	Blue
Good	Green
Moderate	Yellow
Poor	Orange
Bad	Red

- (ii) For heavily modified and artificial water bodies, the ecological potential classification for the body of water shall be represented by the lower of the values for the biological and physico-chemical monitoring results for the relevant quality elements classified in accordance with the first column of the table set out below. Member States shall provide a map for each river basin district illustrating the classification of the ecological potential for each body of water, colour-coded, in respect of artificial water bodies in accordance with the second column of the table set out below, and in respect of heavily modified water bodies in accordance with the third column of that table:

Ecological potential classification	Colour code	
	Artificial Water Bodies	Heavily Modified
Good and above	Equal green and light grey stripes	Equal green and dark grey stripes

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Ecological potential classification	Colour code	
	Artificial Water Bodies	Heavily Modified
Moderate	Equal yellow and light grey stripes	Equal yellow and dark grey stripes
Poor	Equal orange and light grey stripes	Equal orange and dark grey stripes
Bad	Equal red and light grey stripes	Equal red and dark grey stripes

- (iii) Member States shall also indicate, by a black dot on the map, those bodies of water where failure to achieve good status or good ecological potential is due to non-compliance with one or more environmental quality standards which have been established for that body of water in respect of specific synthetic and non-synthetic pollutants (in accordance with the compliance regime established by the Member State).

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- (iv) Member States may provide additional maps that present the ecological quality information for one or more of the following quality elements separately:

- Biological elements,
- Hydromorphological elements supporting the biological elements,
- Physico-chemical elements supporting the biological elements.

Member States may also provide maps or tables indicating the degree of change for those quality elements compared to the previous planning cycle.

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1.4.3. Presentation of monitoring results and classification of chemical status

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A body of water shall be recorded as achieving good chemical status where it has a good surface water chemical status as defined in Article 2(24). If not, the body shall be recorded as failing to achieve good chemical status.

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Member States shall provide a map for each river basin district illustrating chemical status for each body of water, colour-coded in accordance with the second column of the table set out below to reflect the chemical status classification of the body of water:

Chemical status classification	Colour code
Good	Blue
Failing to achieve good	Red

▼M8

Member States may provide additional maps that present the chemical status information for one or more of the following substances separately from the information for the rest of the substances identified in Part A of Annex I of Directive 2008/105/EC:

- (a) priority substances identified in Part A of Annex I of Directive 2008/105/EC as substances behaving like ubiquitous persistent, bioaccumulative and toxic substances (uPBTs);
- (b) newly identified priority substances in the latest review carried out by the Commission in accordance with Article 16(2) of this Directive;
- (c) priority substances for which revised and stricter EQS has been set in the latest review in accordance with Article 16(2) of this Directive;
- (d) substances identified as river basin specific pollutants according to Article 8d of Directive 2008/105/EC and based on the assessment of pressures and impacts on surface water bodies carried out in accordance with Annex II to this Directive.

Member States may also present the extent of any deviation from the EQS value for the substances referred to in points (a) to (d) of the first subparagraph in the river basin management plans. Member States providing such additional maps shall seek to ensure their inter-comparability at river basin and at Union level.

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2. GROUNDWATER

2.1. **Groundwater quantitative status**

2.1.1. Parameter for the classification of quantitative status

Groundwater level regime

2.1.2. Definition of quantitative status

Elements	Good status
Groundwater level	The level of groundwater in the groundwater body is such that the available groundwater resource is not exceeded by the long-term annual average rate of abstraction. Accordingly, the level of groundwater is not subject to anthropogenic alterations such as would result in: — failure to achieve the environmental objectives specified under Article 4 for associated surface waters, — any significant diminution in the status of such waters, — any significant damage to terrestrial ecosystems which depend directly on the groundwater body, and alterations to flow direction resulting from level changes may occur temporarily, or continuously in a spatially limited area, but such reversals do not cause saltwater or other intrusion, and do not indicate a sustained and clearly identified anthropogenically induced trend in flow direction likely to result in such intrusions.

▼B**2.2. Monitoring of groundwater quantitative status****2.2.1. Groundwater level monitoring network**

The groundwater monitoring network shall be established in accordance with the requirements of Articles 7 and 8. The monitoring network shall be designed so as to provide a reliable assessment of the quantitative status of all groundwater bodies or groups of bodies including assessment of the available groundwater resource. Member States shall provide a map or maps showing the groundwater monitoring network in the river basin management plan.

▼M8

Where the monitoring network involves earth observation methods or remote sensing rather than local sampling points, or other innovative techniques, reference shall be made to CEN, ISO, or other international or national standards that have been applied to ensure that the temporal and spatial data obtained are as reliable as those obtained through the use of conventional monitoring methods at local sampling points.

▼B**2.2.2. Density of monitoring sites**

The network shall include sufficient representative monitoring points to estimate the groundwater level in each groundwater body or group of bodies taking into account short and long-term variations in recharge and in particular:

- for groundwater bodies identified as being at risk of failing to achieve environmental objectives under Article 4, ensure sufficient density of monitoring points to assess the impact of abstractions and discharges on the groundwater level,
- for groundwater bodies within which groundwater flows across a Member State boundary, ensure sufficient monitoring points are provided to estimate the direction and rate of groundwater flow across the Member State boundary.

2.2.3. Monitoring frequency

The frequency of observations shall be sufficient to allow assessment of the quantitative status of each groundwater body or group of bodies taking into account short and long-term variations in recharge. In particular:

- for groundwater bodies identified as being at risk of failing to achieve environmental objectives under Article 4, ensure sufficient frequency of measurement to assess the impact of abstractions and discharges on the groundwater level,
- for groundwater bodies within which groundwater flows across a Member State boundary, ensure sufficient frequency of measurement to estimate the direction and rate of groundwater flow across the Member State boundary.

▼B**2.2.4. Interpretation and presentation of groundwater quantitative status**

The results obtained from the monitoring network for a groundwater body or group of bodies shall be used to assess the quantitative status of that body or those bodies. Subject to point 2.5. Member States shall provide a map of the resulting assessment of groundwater quantitative status, colour-coded in accordance with the following regime:

Good: green

Poor: red

2.3. Groundwater chemical status**2.3.1. Parameters for the determination of groundwater chemical status**

Conductivity

Concentrations of pollutants

▼M8**2.3.2. Definition of good groundwater chemical status**

Element	Good status
Concentrations of pollutants	The chemical composition of the groundwater body is such that the concentrations of pollutants, as specified below: — do not exhibit the effects of saline or other intrusions — do not exceed the groundwater quality standards as referred to in Annex I to Directive 2006/118/EC, the threshold values for groundwater pollutants and indicators of pollution set pursuant to Article 3 (1) (b), of that Directive and the Union wide threshold values set pursuant to Article 8 (3) of that Directive — are not such as would result in failure to achieve the environmental objectives specified under Article 4 for associated surface waters nor any significant diminution of the ecological or chemical quality of such bodies nor in any significant damage to terrestrial ecosystems which depend directly on the groundwater body
Conductivity	Changes in conductivity are not indicative of saline or other intrusion into the groundwater body

▼B**2.4. Monitoring of groundwater chemical status****2.4.1. Groundwater monitoring network**

The groundwater monitoring network shall be established in accordance with the requirements of Articles 7 and 8. The monitoring network shall be designed so as to provide a coherent and comprehensive overview of groundwater chemical status within each river basin and to detect the presence of long-term anthropogenically induced upward trends in pollutants.

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On the basis of the characterisation and impact assessment carried out in accordance with Article 5 and Annex II, Member States shall for each period to which a river basin management plan applies, establish a surveillance monitoring programme. The results of this programme shall be used to establish an operational monitoring programme to be applied for the remaining period of the plan.

Estimates of the level of confidence and precision of the results provided by the monitoring programmes shall be given in the plan.

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Where the monitoring network involves earth observation or remote sensing rather than local sampling points, or other innovative techniques, reference shall be made to CEN, ISO, or other international or national standards that have been applied to ensure that the temporal and spatial data obtained are as reliable as those obtained through the use of conventional monitoring methods at local sampling points.

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2.4.2. Surveillance monitoring

Objective

Surveillance monitoring shall be carried out in order to:

- supplement and validate the impact assessment procedure,
- provide information for use in the assessment of long term trends both as a result of changes in natural conditions and through anthropogenic activity.

Selection of monitoring sites

Sufficient monitoring sites shall be selected for each of the following:

- bodies identified as being at risk following the characterisation exercise undertaken in accordance with Annex II,
- bodies which cross a Member State boundary.

Selection of parameters

The following set of core parameters shall be monitored in all the selected groundwater bodies:

- oxygen content
- pH value
- conductivity
- nitrate
- ammonium

Bodies which are identified in accordance with Annex II as being at significant risk of failing to achieve good status shall also be monitored for those parameters which are indicative of the impact of these pressures.

Transboundary water bodies shall also be monitored for those parameters which are relevant for the protection of all of the uses supported by the groundwater flow.

2.4.3. Operational monitoring

Objective

Operational monitoring shall be undertaken in the periods between surveillance monitoring programmes in order to:

- establish the chemical status of all groundwater bodies or groups of bodies determined as being at risk,
- establish the presence of any long term anthropogenically induced upward trend in the concentration of any pollutant.

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Selection of monitoring sites

Operational monitoring shall be carried out for all those groundwater bodies or groups of bodies which on the basis of both the impact assessment carried out in accordance with Annex II and surveillance monitoring are identified as being at risk of failing to meet objectives under Article 4. The selection of monitoring sites shall also reflect an assessment of how representative monitoring data from that site is of the quality of the relevant groundwater body or bodies.

▼M8*Frequency of monitoring*

Operational monitoring shall be carried out for the periods between surveillance monitoring programmes at a frequency sufficient to detect the impacts of relevant pressures, including, where relevant, seasonal variation in the use of substances and of short- and long-term variations in recharge that might affect chemical status parameters, and at a minimum frequency of once per year, unless greater intervals would be justified on the basis of technical knowledge and expert judgement, in particular if it can be shown that over successive years, no exceedance or sustained upward trend has been detected for a particular parameter.

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2.4.4. Identification of trends in pollutants

Member States shall use data from both surveillance and operational monitoring in the identification of long term anthropogenically induced upward trends in pollutant concentrations and the reversal of such trends. The base year or period from which trend identification is to be calculated shall be identified. The calculation of trends shall be undertaken for a body or, where appropriate, group of bodies of groundwater. Reversal of a trend shall be demonstrated statistically and the level of confidence associated with the identification stated.

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2.4.5. Interpretation and presentation of groundwater chemical status

In assessing the chemical status of groundwater, the results of individual monitoring points within a groundwater body shall be aggregated for the body as a whole. The mean value of the results of monitoring at each point in the groundwater body or group of bodies shall be calculated for the following parameters:

- (a) chemical parameters for which quality standards have been set in Annex I to Directive 2006/118/EC;
- (b) chemical parameters for which national threshold values have been set pursuant to Article 3(1)(b) of Directive 2006/118/EC;
- (c) chemical parameters for which Union wide threshold values have been set pursuant to Article 8(3) of Directive 2006/118/EC.

The mean values referred to in the first paragraph shall be used to demonstrate compliance with good groundwater chemical status defined by reference to the quality standards and threshold values referred to in the first paragraph.

Subject to Section 2.5, Member States shall provide a map of groundwater chemical status, colour-coded as follows:

Poor: red

Good: green

▼M8

Member States may provide additional maps that present the chemical status information for one or more of the following substances separately from the information for the rest of the substances identified in Directive 2006/118/EC:

- (a) newly identified substances in the latest review in accordance with Article 8 of Directive 2006/118/EC;
- (b) substances for which revised and stricter quality standards (QS) or threshold values are established in accordance with Article 8 of Directive 2006/118/EC.

Member States may also present the extent of any deviation from the QS or threshold value for the substances referred to in points (a) and (b) of the first subparagraph in the river basin management plans. Member States providing such additional maps shall seek to ensure their inter-comparability at river basin and Union level.

Member States shall also indicate, by a black dot on the map, those groundwater bodies which are subject to a significant and sustained upward trend in the concentrations of any pollutant resulting from the impact of human activity. Reversal of such a trend shall be indicated by a blue dot on the map.

These maps shall be included in the river basin management plans.

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2.5. **Presentation of Groundwater Status**

Member States shall provide in the river basin management plan a map showing for each groundwater body or groups of groundwater bodies both the quantitative status and the chemical status of that body or group of bodies, colour-coded in accordance with the requirements of points 2.2.4 and 2.4.5. Member States may choose not to provide separate maps under points 2.2.4 and 2.4.5 but shall in that case also provide an indication in accordance with the requirements of point 2.4.5 on the map required under this point, of those bodies which are subject to a significant and sustained upward trend in the concentration of any pollutant or any reversal in such a trend.



ANNEX VI

LISTS OF MEASURES TO BE INCLUDED WITHIN THE PROGRAMMES OF MEASURES

PART A

Measures required under the following Directives:

- (i) The Bathing Water Directive (76/160/EEC);
- (ii) The Birds Directive (79/409/EEC) ⁽¹⁾;
- (iii) The Drinking Water Directive (80/778/EEC) as amended by Directive (98/83/EC);
- (iv) The Major Accidents (Seveso) Directive (96/82/EC) ⁽²⁾;
- (v) The Environmental Impact Assessment Directive (85/337/EEC) ⁽³⁾;
- (vi) The Sewage Sludge Directive (86/278/EEC) ⁽⁴⁾;
- (vii) The Urban Waste-water Treatment Directive (91/271/EEC);
- (viii) The Plant Protection Products Directive (91/414/EEC);
- (ix) The Nitrates Directive (91/676/EEC);
- (x) The Habitats Directive (92/43/EEC) ⁽⁵⁾;
- (xi) The Integrated Pollution Prevention Control Directive (96/61/EC).

PART B

The following is a non-exclusive list of supplementary measures which Member States within each river basin district may choose to adopt as part of the programme of measures required under Article 11(4):

- (i) legislative instruments
- (ii) administrative instruments
- (iii) economic or fiscal instruments
- (iv) negotiated environmental agreements
- (v) emission controls
- (vi) codes of good practice
- (vii) recreation and restoration of wetlands areas
- (viii) abstraction controls
- (ix) demand management measures, *inter alia*, promotion of adapted agricultural production such as low water requiring crops in areas affected by drought
- (x) efficiency and reuse measures, *inter alia*, promotion of water-efficient technologies in industry and water-saving irrigation techniques
- (xi) construction projects
- (xii) desalination plants
- (xiii) rehabilitation projects
- (xiv) artificial recharge of aquifers
- (xv) educational projects
- (xvi) research, development and demonstration projects
- (xvii) other relevant measures

⁽¹⁾ OJ L 103, 25.4.1979, p. 1.

⁽²⁾ OJ L 10, 14.1.1997, p. 13.

⁽³⁾ OJ L 175, 5.7.1985, p. 40. Directive as amended by Directive 97/11/EC (OJ L 73, 14.3.1997, p. 5).

⁽⁴⁾ OJ L 181, 8.7.1986, p. 6.

⁽⁵⁾ OJ L 206, 22.7.1992, p. 7.



ANNEX VII

RIVER BASIN MANAGEMENT PLANS

- A. River basin management plans shall cover the following elements:
1. a general description of the characteristics of the river basin district required under Article 5 and Annex II. This shall include:
 - 1.1. for surface waters:
 - mapping of the location and boundaries of water bodies,
 - mapping of the ecoregions and surface water body types within the river basin,
 - identification of reference conditions for the surface water body types;
 - 1.2. for groundwaters:
 - mapping of the location and boundaries of groundwater bodies;
 2. a summary of significant pressures and impact of human activity on the status of surface water and groundwater, including:
 - estimation of point source pollution,
 - estimation of diffuse source pollution, including a summary of land use,
 - estimation of pressures on the quantitative status of water including abstractions,
 - analysis of other impacts of human activity on the status of water;
 3. identification and mapping of protected areas as required by Article 6 and Annex IV;
 4. a map of the monitoring networks established for the purposes of Article 8 and Annex V, and a presentation in map form of the results of the monitoring programmes carried out under those provisions for the status of:
 - 4.1. surface water (ecological and chemical);
 - 4.2. groundwater (chemical and quantitative);
 - 4.3. protected areas;
 5. a list of the environmental objectives established under Article 4 for surface waters, groundwaters and protected areas, including in particular identification of instances where use has been made of Article 4(4), (5), (6) and (7), and the associated information required under that Article;
 6. a summary of the economic analysis of water use as required by Article 5 and Annex III;
 7. a summary of the programme or programmes of measures adopted under Article 11, including the ways in which the objectives established under Article 4 are thereby to be achieved;
 - 7.1. a summary of the measures required to implement Community legislation for the protection of water;
 - 7.2. a report on the practical steps and measures taken to apply the principle of recovery of the costs of water use in accordance with Article 9;

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- 7.3. a summary of the measures taken to meet the requirements of Article 7;
 - 7.4. a summary of the controls on abstraction and impoundment of water, including reference to the registers and identifications of the cases where exemptions have been made under Article 11(3)(e);
 - 7.5. a summary of the controls adopted for point source discharges and other activities with an impact on the status of water in accordance with the provisions of Article 11(3)(g) and 11(3)(i);
 - 7.6. an identification of the cases where direct discharges to groundwater have been authorised in accordance with the provisions of Article 11(3)(j);
 - 7.7. a summary of the measures taken in accordance with Article 16 on priority substances;
 - 7.8. a summary of the measures taken to prevent or reduce the impact of accidental pollution incidents;
 - 7.9. a summary of the measures taken under Article 11(5) for bodies of water which are unlikely to achieve the objectives set out under Article 4;
 - 7.10. details of the supplementary measures identified as necessary in order to meet the environmental objectives established;
 - 7.11. details of the measures taken to avoid increase in pollution of marine waters in accordance with Article 11(6);
 8. a register of any more detailed programmes and management plans for the river basin district dealing with particular sub-basins, sectors, issues or water types, together with a summary of their contents;
 9. a summary of the public information and consultation measures taken, their results and the changes to the plan made as a consequence;
 10. a list of competent authorities in accordance with Annex I;
 11. the contact points and procedures for obtaining the background documentation and information referred to in Article 14(1), and in particular details of the control measures adopted in accordance with Article 11(3)(g) and 11(3)(i) and of the actual monitoring data gathered in accordance with Article 8 and Annex V.
- B. The first update of the river basin management plan and all subsequent updates shall also include:
1. a summary of any changes or updates since the publication of the previous version of the river basin management plan, including a summary of the reviews to be carried out under Article 4(4), (5), (6) and (7);
 2. an assessment of the progress made towards the achievement of the environmental objectives, including presentation of the monitoring results for the period of the previous plan in map form, and an explanation for any environmental objectives which have not been reached;
 3. a summary of, and an explanation for, any measures foreseen in the earlier version of the river basin management plan which have not been undertaken;
 4. a summary of any additional interim measures adopted under Article 11(5) since the publication of the previous version of the river basin management plan;
- ▼M8
5. a summary of any measures adopted to take into account the suggestions for improvement made by the Commission, in accordance with Article 18(2)(c), to the previous plan.

▼B*ANNEX VIII***INDICATIVE LIST OF THE MAIN POLLUTANTS**

1. Organohalogen compounds and substances which may form such compounds in the aquatic environment.
2. Organophosphorous compounds.
3. Organotin compounds.
4. Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment.
5. Persistent hydrocarbons and persistent and bioaccumulable organic toxic substances.
6. Cyanides.
7. Metals and their compounds.
8. Arsenic and its compounds.
9. Biocides and plant protection products.
10. Materials in suspension.

▼M8

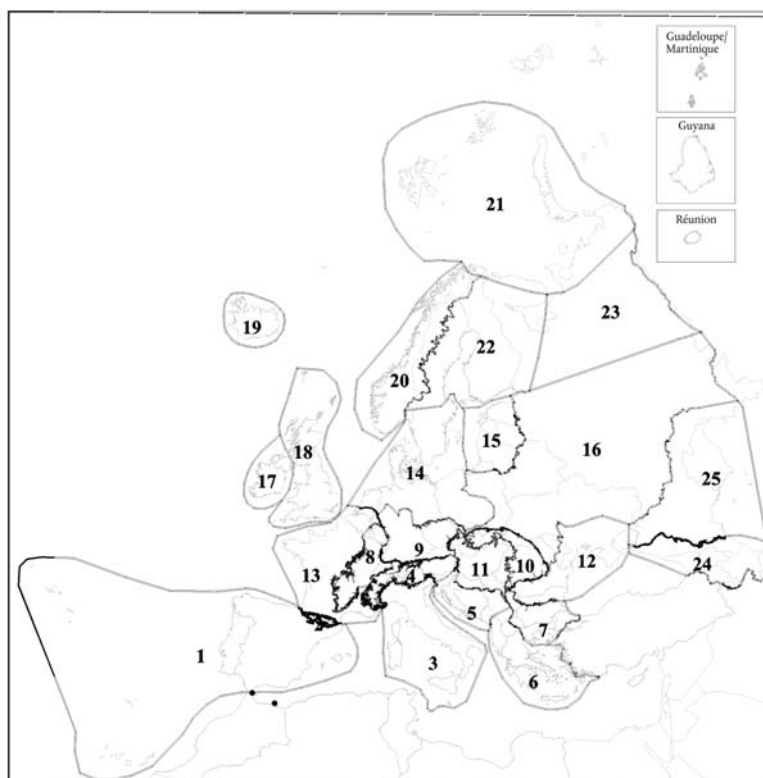
13. Microorganisms, genes or genetic material reflecting the presence of microorganisms resistant to antimicrobial agents, in particular microorganisms pathogenic to humans or livestock.



ANNEX XI

MAP A

System A: Ecoregions for rivers and lakes



1. Iberic-Macaronesian region
2. Pyrenees
3. Italy, Corsica and Malta
4. Alps
5. Dinaric western Balkan
6. Hellenic western Balkan
7. Eastern Balkan
8. Western highlands
9. Central highlands
10. The Carpathians
11. Hungarian lowlands
12. Pontic province
13. Western plains
14. Central plains
15. Baltic province
16. Eastern plains

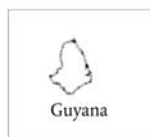
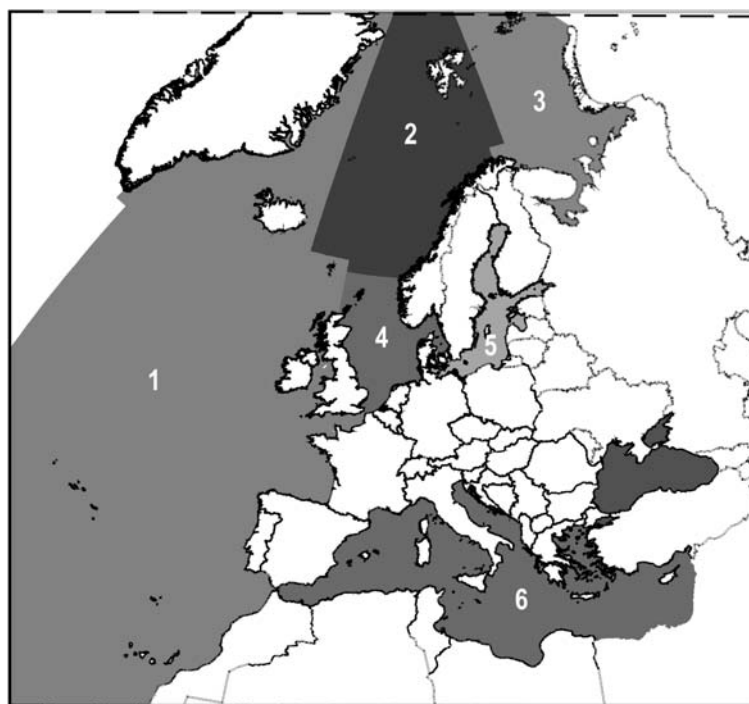
▼B

17. Ireland and Northern Ireland
18. Great Britain
19. Iceland
20. Boreallic uplands
21. Tundra
22. Fenno-Scandian shield
23. Taiga
24. The Caucasus
25. Caspic depression

▼ B

MAP B

System A: Ecoregions for transitional waters and coastal waters



1. Atlantic Ocean
2. Norwegian Sea
3. Barents Sea
4. North Sea
5. Baltic Sea
6. Mediterranean Sea